Issue 183
PS
1968 Series
THE PREVENTIVE MAINTENANCE MONTHLY
WOULD YOU BELIEVE ... A NERVOUS BREAKDOWN!
SUPPLY REJECT
WRONG NO.
CANNOT IDENTIFY
OLD FSN
WILL EISNER

Dirt will do you in.

It will if you don't watch out.

Just about the worst enemy of the World's Best Army Equipment is dirt. You find it in and around your equipment in the form of dust, mud, muck, sand, leaves and trash, and things like grease mixed with mud, dust and all the rest. Even water becomes "dirt" when it gets in things like fuel or oil.

So, before, during and after your battle with the enemy—especially before—you've got a big fight with dirt. And it's one fight that you've got to keep at night and day.

Keep your rifle clean. Keep dirt and water out of your radio. Clean, change or drain your air, oil and fuel filters. Keep covers, ducts, plates and the like on snug so dirt won't sneak into your equipment.

Use a rag to wipe away dirt, dust, water, oil or anything else that gets where it can foul you up. Clean off dirt at every stop.

You can prevent lots of trouble if you carry on a personal war with dirt. Never let it do you or your equipment in.

It's good PM* to fight dirt.

*PREVENTIVE MAINTENANCE

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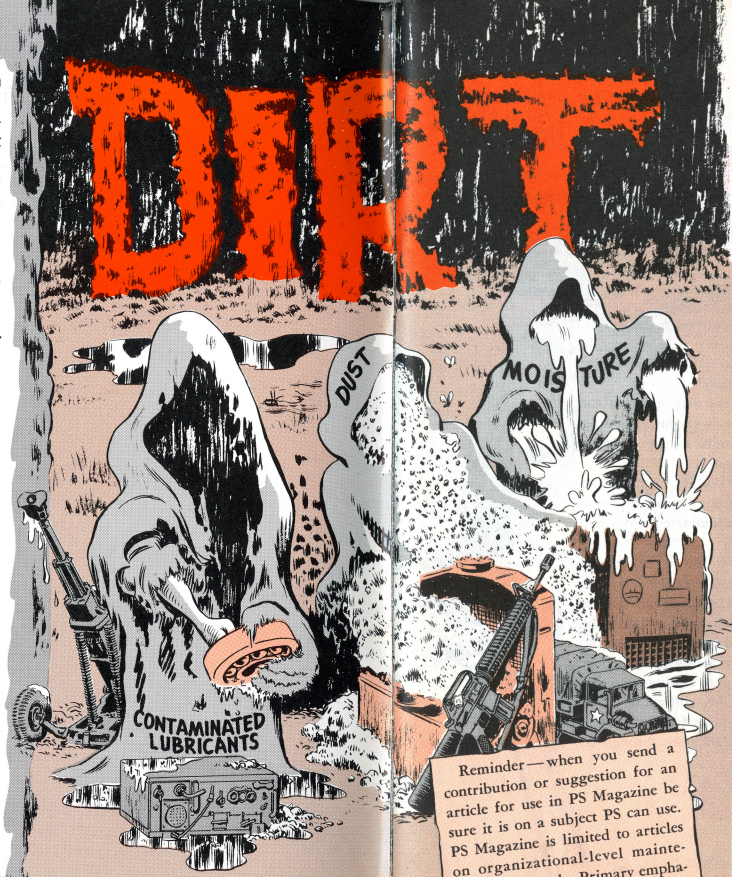

*PREVENTIVE MAINTENANCE

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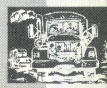

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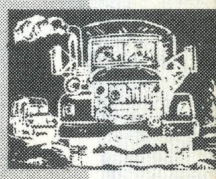

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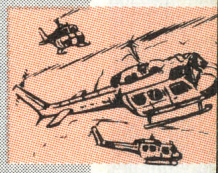

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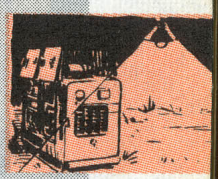

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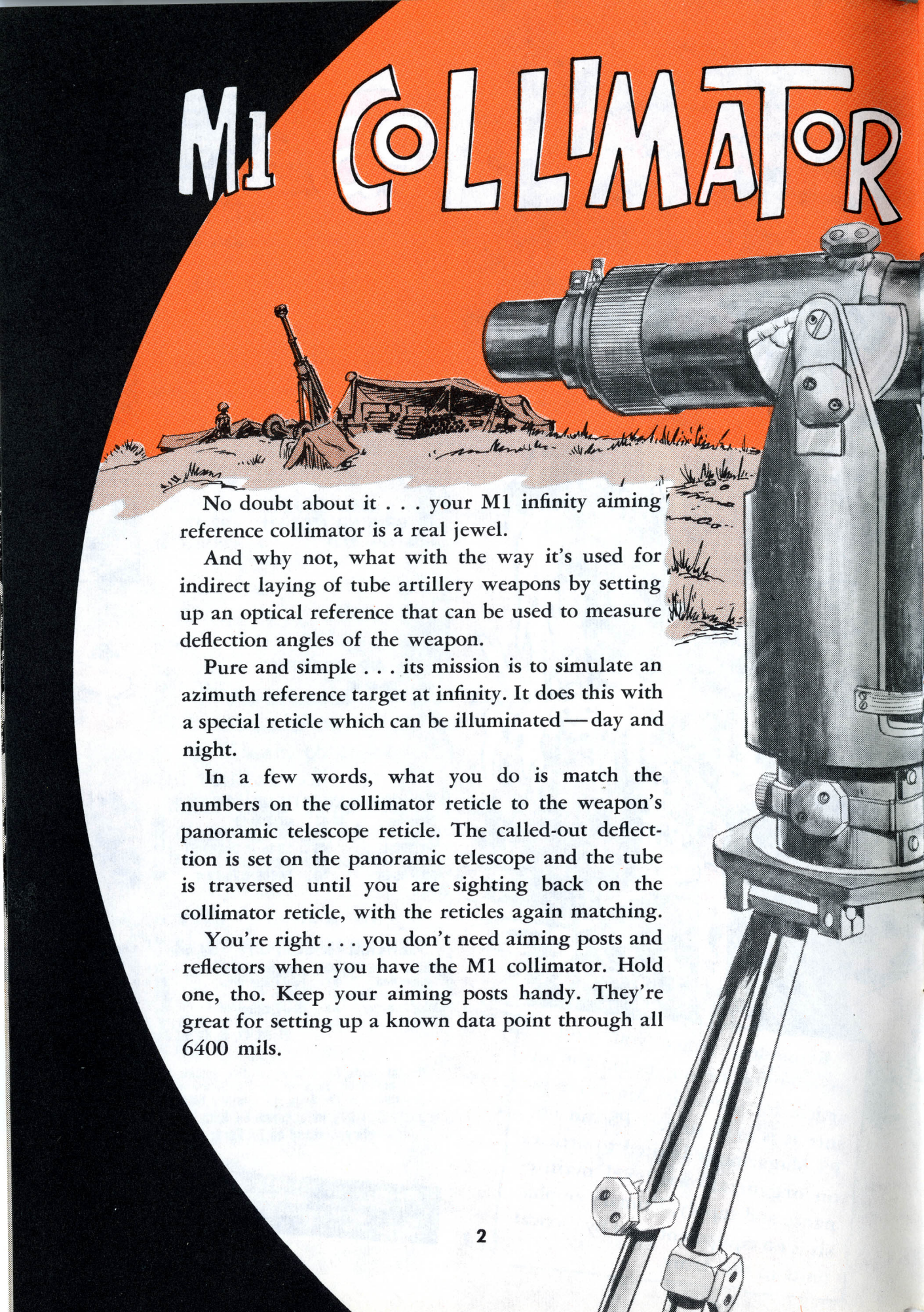
M1 COLLIMATOR



No doubt about it . . . your M1 infinity aiming reference collimator is a real jewel.

And why not, what with the way it's used for indirect laying of tube artillery weapons by setting up an optical reference that can be used to measure deflection angles of the weapon.

Pure and simple . . . its mission is to simulate an azimuth reference target at infinity. It does this with a special reticle which can be illuminated—day and night.

In a few words, what you do is match the numbers on the collimator reticle to the weapon's panoramic telescope reticle. The called-out deflection is set on the panoramic telescope and the tube is traversed until you are sighting back on the collimator reticle, with the reticles again matching.

You're right . . . you don't need aiming posts and reflectors when you have the M1 collimator. Hold one, tho. Keep your aiming posts handy. They're great for setting up a known data point through all 6400 mils.

M1 COLLIMATOR GEM OF THE ARTILLERYMAN

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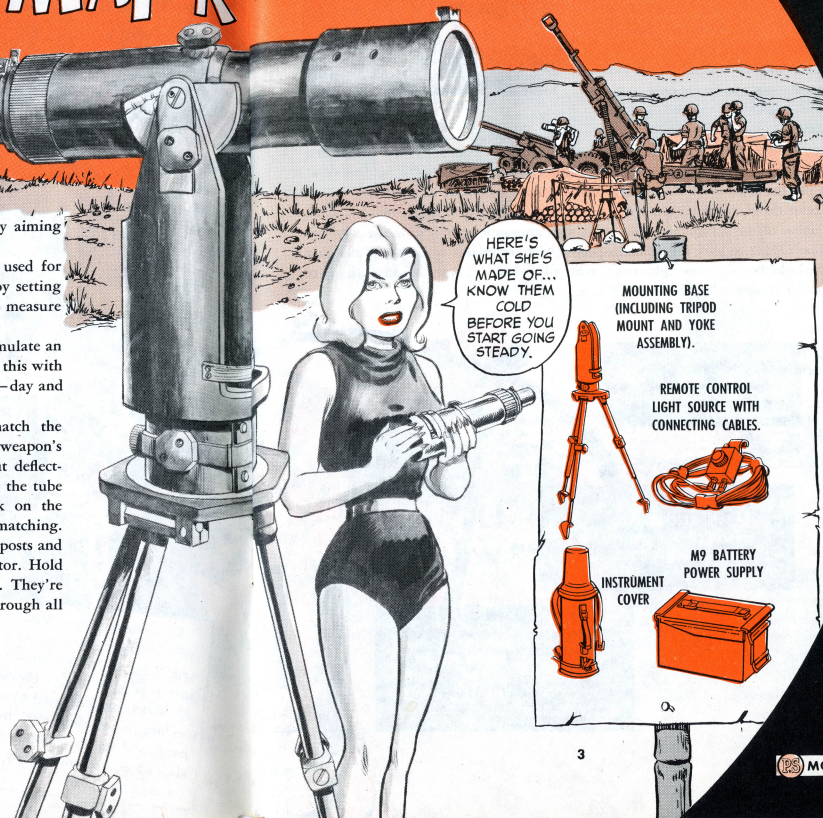


(P.S.) MORE

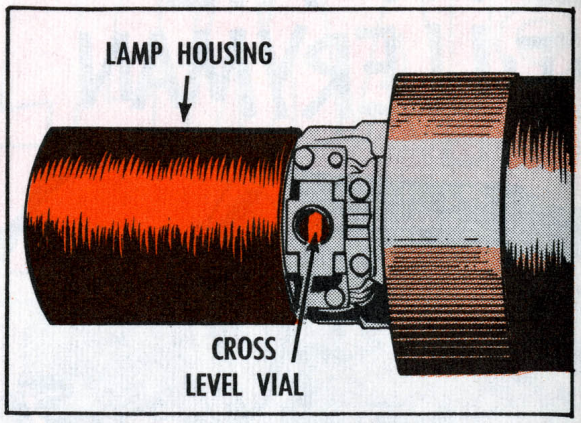
GEM OF THE ARTILLERYMAN

P.S. MORE

COLLIMATOR ASSEMBLY

The collimator assembly includes optics in a mechanical housing and a light source. When the collimator is put together, the lenses are fixed-focused to do a job for you. You just plain don't want to fool with 'em.

The collimator assembly is sealed to keep out moisture. So the only part that you can and should take off is the lamp housing.



The reticle pattern could be called an azimuth reference scale that is repeated enough in a vertical line to set up a grid throughout the collimator field of view. You use the cross-level vial on the collimator to cross-level this pattern.

About those sights on the collimator . . . they let you come up with a quick alinement of the collimator optics with the panoramic telescope on the weapon.

Here's what to look for when inspecting the collimator assembly. Take care of the **bold faced items** right away, which is what you want to do with all of the other components of the collimator.

COLLIMATOR (Overall)—Dented, cracked, dirty, corroded; screws loose, missing; cell assemblies **loose.**

LEVEL ASSEMBLY—Vial holder **loose,** cracked; vial **cracked,** loose; window busted, scratched so bad vial can't be read, loose, missing; slotted screw plug loose, missing.

LAMP HOUSING—Hard to take off of or put back on collimator; fits loosely in collimator; lamp **burned out,** missing; lamp contacts corroded; receptacle dirty, corroded, battered; receptacle nut loose, missing.

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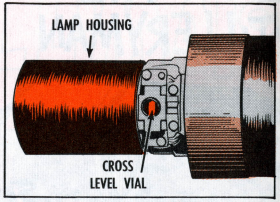

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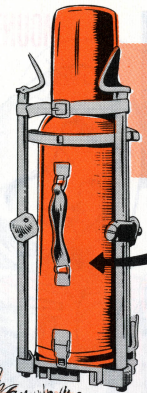
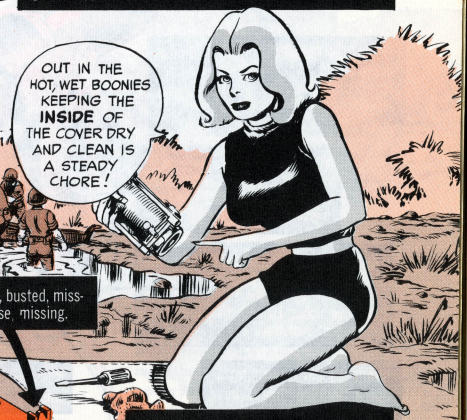
INSTRUMENT COVER

The instrument cover is just what it says—a cover for the collimator assembly. It's just the thing for keeping dust, moisture and whatnot off the assembly when it's not in use. All it takes is to snap the 3 latches shut. A strap on the cover holds the folded tripod legs in place.

COVER—Cracked, dented, **missing;** latches don't hold cover tightly, busted; carrying handle broken, missing; strap torn, missing; fastener doesn't hold, busted; rivets loose; gasket ripped, loose; collar loose.





SIGHTS—Bent, busted, missing; screws loose, missing.

OPTICS (Lenses, reticle)—Scratched, pitted, chipped, cracked, discolored, fingerprint-smeared, **loose in housing,** missing, **moisture on inside** (a sign that nitrogen charging is needed), reticle numbers **can't be read,** look blurred.

MORE

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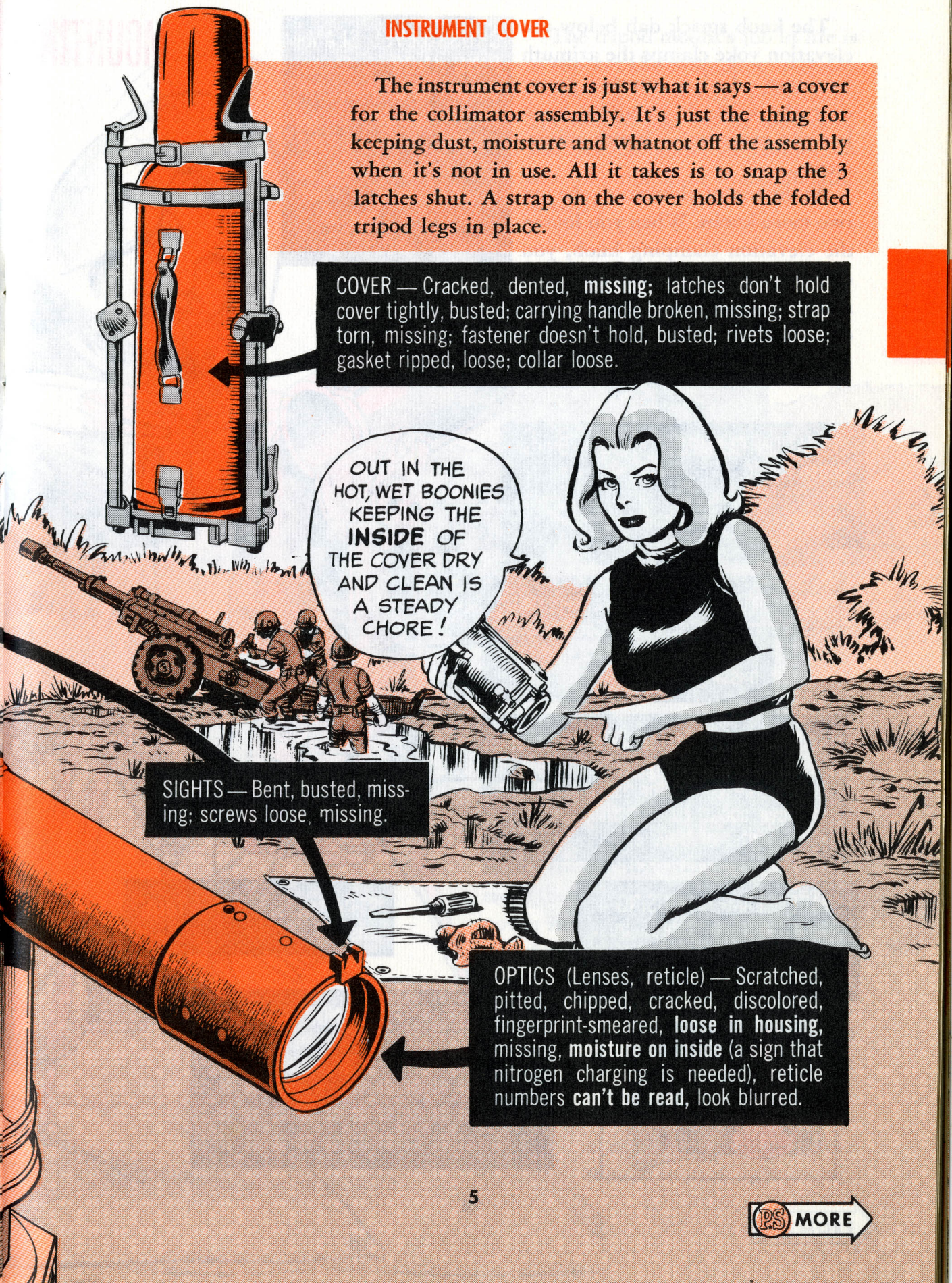


P.S. MORE

The knob smack dab below the elevation yoke clamps the azimuth workings. And a knurled screw near the azimuth clamping knob lets you make fine azimuth adjustments.

At the top of elevation yoke are two more knobs. When you loosen the elevation clamping knob, you can elevate and depress the collimator from 71 to 852 mils. The other knob lets you rotate the collimator for cross-leveling.

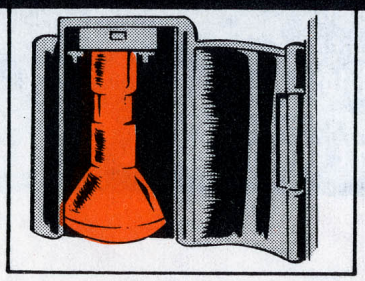
CROSS-LEVEL CLAMPING KNOB — Sticks, **doesn't hold.** (When locked, you should not be able to rotate collimator in collar with average finger pressure . . . when unlocked, the collimator should rotate.)

ELEVATION CLAMPING KNOB — Binds, **doesn't hold.** (When unlocked, collimator should move in elevation . . . when locked, collimator shouldn't move up and down.)

YOKE (Overall)—Cracked; paint missing; screws and nuts loose, missing; lockwashers and pins missing.

AZIMUTH ADJUSTMENT SCREW—Bent, hard to turn, **missing.** (When screw is turned, the collimator assembly ought to move about 10 mils to either side of its center of traverse.)

SPARE LAMP HOUSING — Spare lamp corroded, busted, missing; socket doesn't hold lamp, loose in housing.



STRAP ASSEMBLY — **Torn, missing.**

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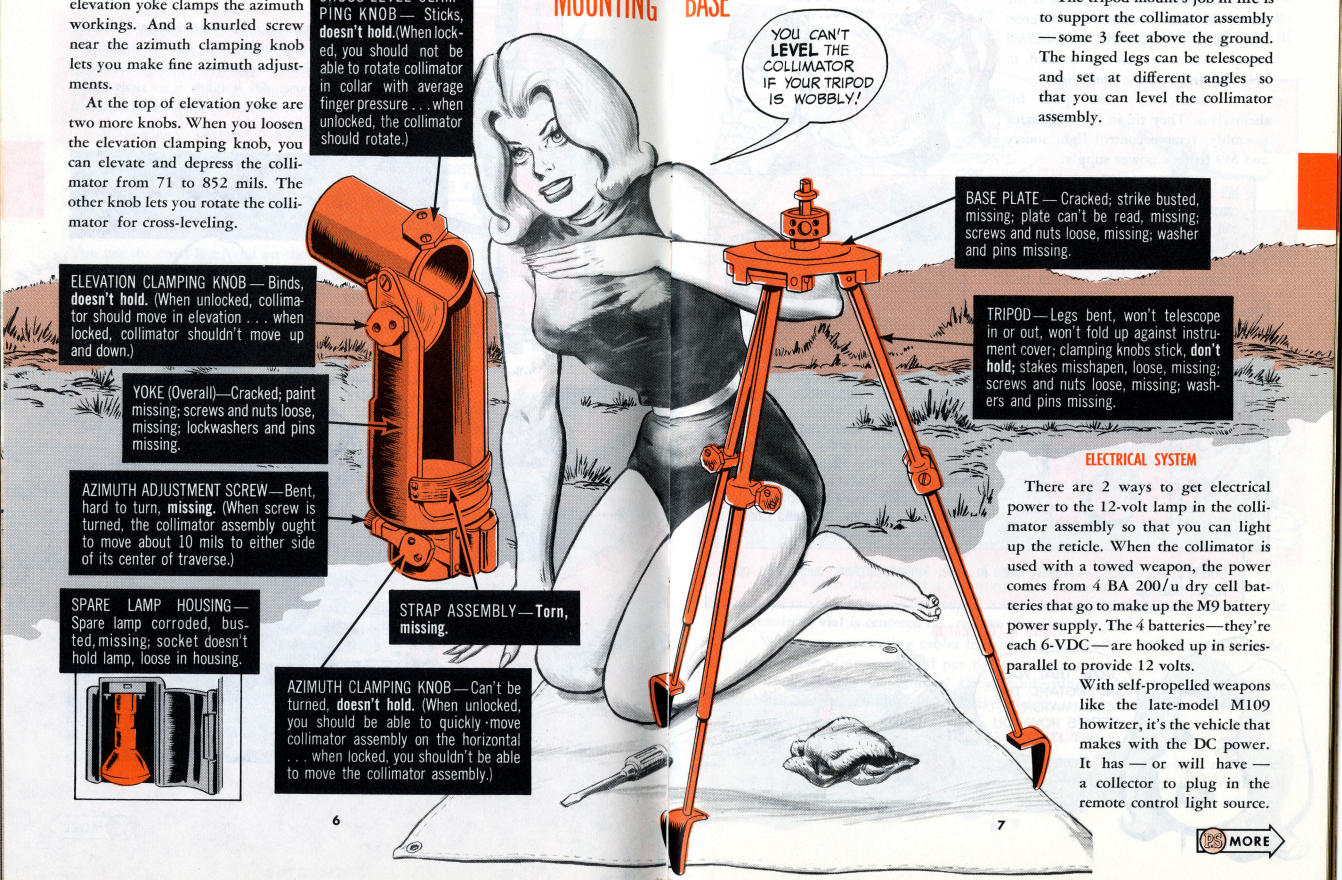
MOUNTING BASE



The tripod mount's job in life is to support the collimator assembly — some 3 feet above the ground. The hinged legs can be telescoped and set at different angles so that you can level the collimator assembly.

BASE PLATE — Cracked; strike busted, missing; plate can't be read, missing; screws and nuts loose, missing; washer and pins missing.

TRIPOD — Legs bent, won't telescope in or out, won't fold up against instrument cover; clamping knobs stick, **don't hold;** stakes misshapen, loose, missing; screws and nuts loose, missing; washers and pins missing.

ELECTRICAL SYSTEM

There are 2 ways to get electrical power to the 12-volt lamp in the collimator assembly so that you can light up the reticle. When the collimator is used with a towed weapon, the power comes from 4 BA 200/u dry cell batteries that go to make up the M9 battery power supply. The 4 batteries—they're each 6-VDC — are hooked up in series-parallel to provide 12 volts.

With self-propelled weapons like the late-model M109 howitzer, it's the vehicle that makes with the DC power. It has — or will have — a collector to plug in the remote control light source.

PS MORE

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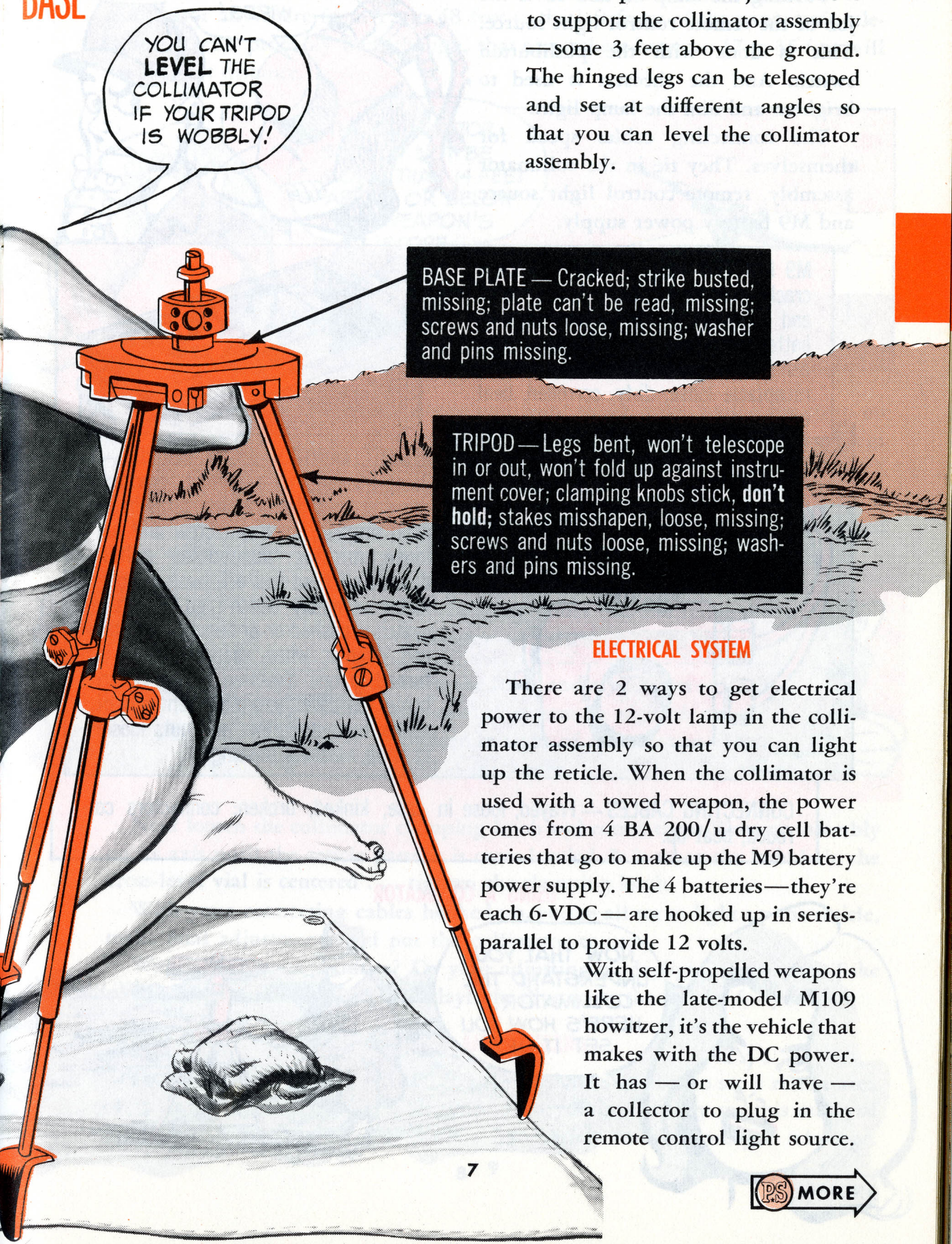

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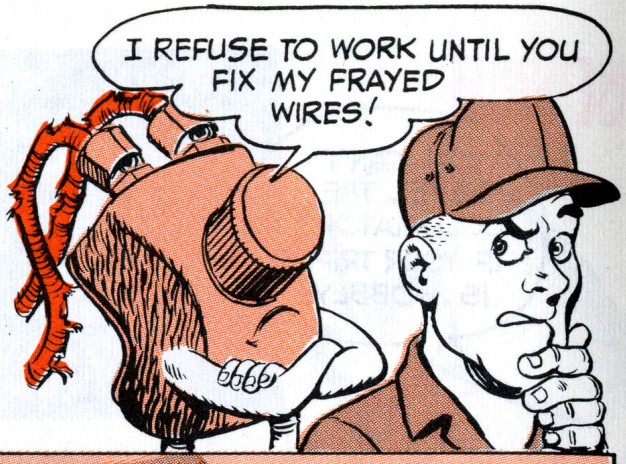
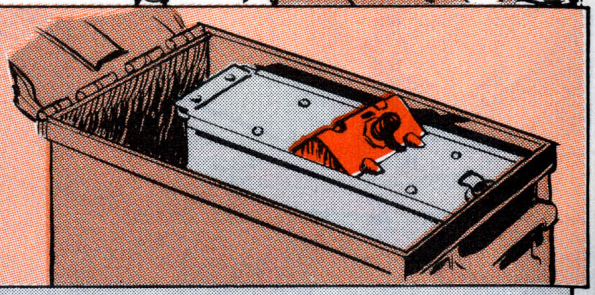
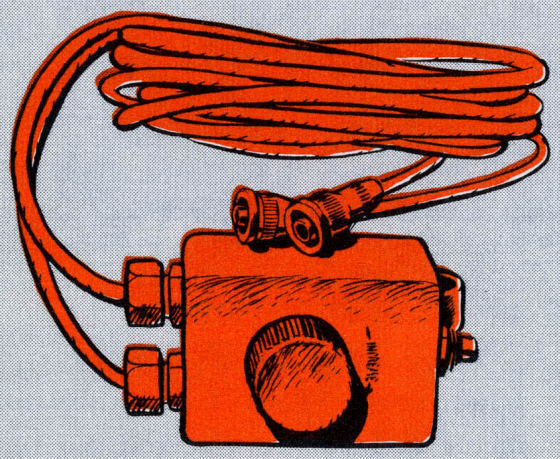
Turning the lamp on and off is the job of the remote control light source. This is done with the pushbutton switch. And the rheostat is used to brighten and dim the lamp light.

The connecting cables speak for themselves. They tie in the collimator assembly, remote control light source and M9 battery power supply.



M9 BATTERY POWER SUPPLY — Case cracked, dented, paint missing; latch and carrying handle broken, missing; batteries **corroded,** weak, dead; battery connections **corroded,** loose, busted; receptacle loose, dirty, corroded, beat up.

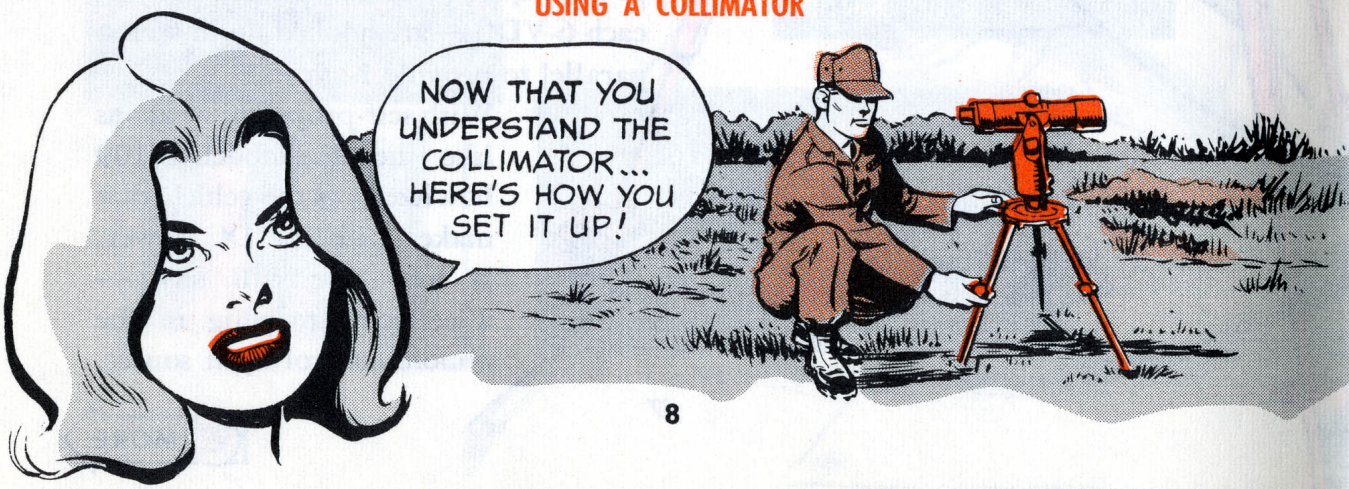




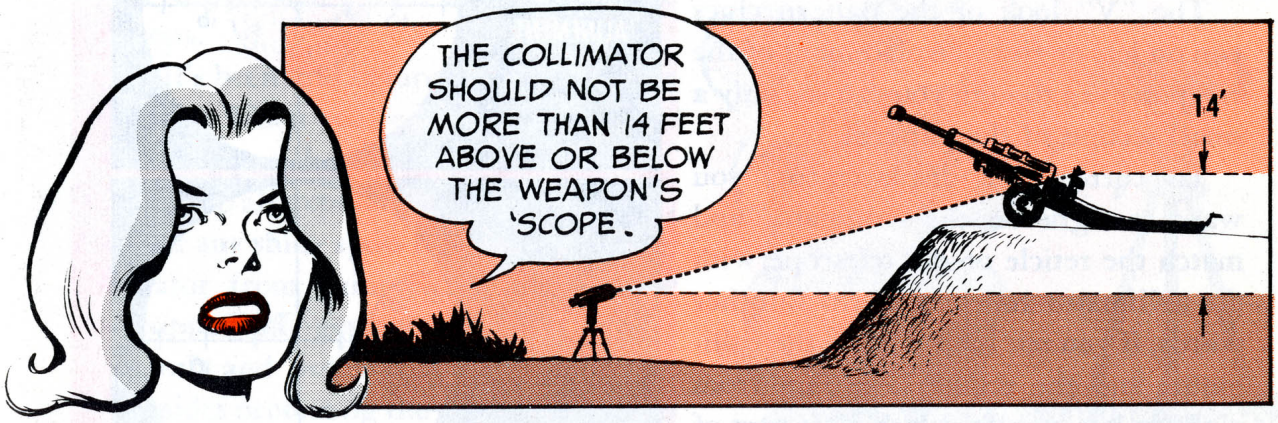
REMOTE CONTROL LIGHT SOURCE — Paint missing; case dented, cracked; rheostat knob **doesn't turn,** turns hard; knob missing; knob setscrew and pin loose, missing; pushbutton switch **doesn't click on and off;** lamp in collimator assembly doesn't go on when switch is pushed on or become brighter and dimmer when rheostat knob is turned in one direction or the other; holder on cover assembly bent out of shape, busted; screws and nuts loose, missing; washers missing.

CONNECTING CABLES — Frayed, loose in case, kinked, broken; connectors corroded, beat up.

USING A COLLIMATOR

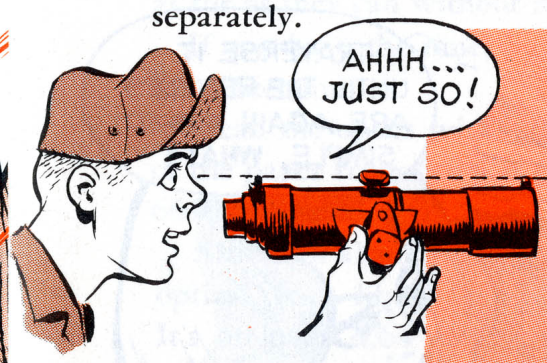


After the weapon has been laid for direction, you usually can emplace the collimator anywhere from 12 to 48 feet to the left front of the panoramic telescope. You'll probably find, though, that somewhere between 17 to 35 feet will be the best distance.



With the collimator about where you want to set it up, loosen the strap on the instrument cover and let the tripod legs go to the ground. (Watch those legs —they can't take rough handling.) Then open the latches and take off the cover.

The collimator should be emplaced as steady as possible. Also try for a good leveling job, but no real sweat here 'cause the reticle can be cross-leveled separately.



Now loosen the azimuth and elevation clamping knobs . . . and move the collimator—at the same time looking down the front and rear sights—until the optical system is sighted on the panoramic sight of the weapon. Then tighten the knobs.

Next loosen the collimator clamping knob and rotate the collimator assembly on its axis until the reticle pattern is cross-leveled. It is when the bubble in the cross-level vial is centered . . . tighten the clamping knob.

With your connecting cables hooked up, you're all set to light up the reticle, make final adjustments and put the collimator to use.

Wanna save your batteries? Do your adjusting by daylight, if you can. Take off the lamp housing and let the daylight illuminate the reticles for you.

LAYING AND REFERRING

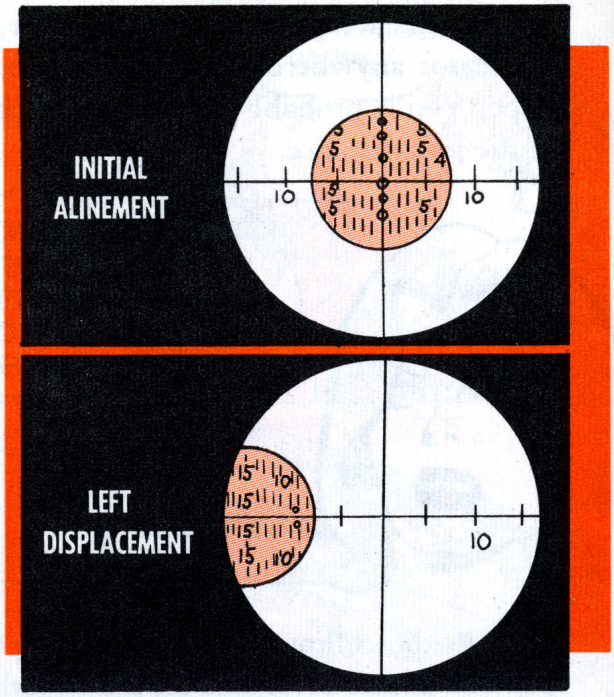
To get accurate laying and referring, you should be able to see a reticle area of at least a 7-mil diameter at all times. And you can usually see this much of the reticle when the collimator is that 17 to 35 feet from the weapon telescope.

PS MORE

After the collimator's been alined with the weapon's telescope, your sight picture should look like the initial alinement picture at the right.

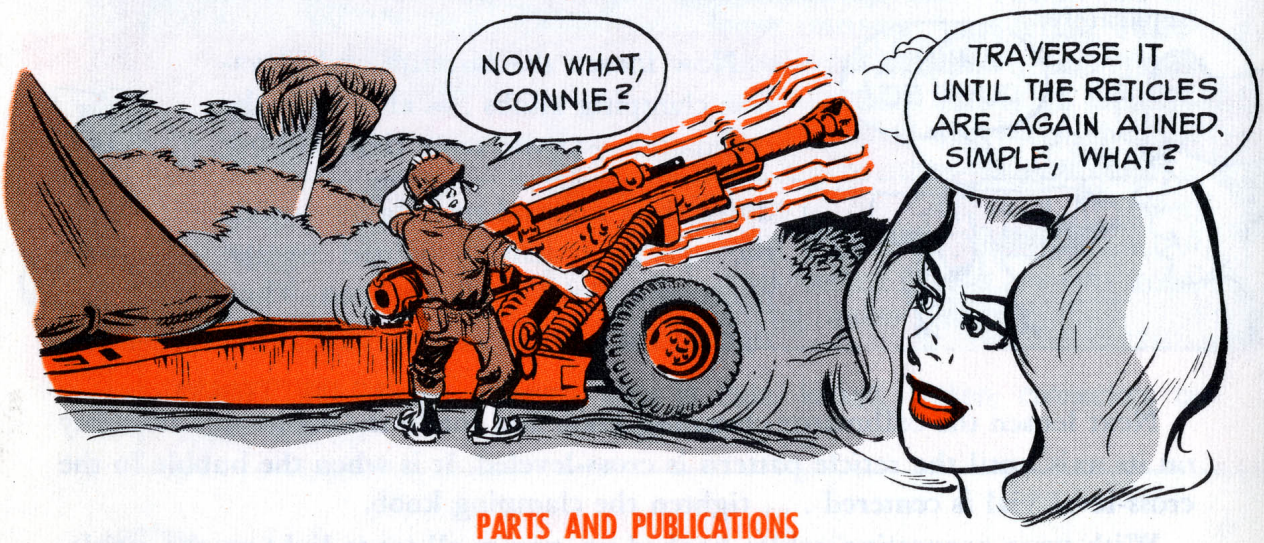
The "V" look of the pattern clues you on left or right displacement of the weapon even though you can see only a small section of the pattern.

To correct for displacement, you want to sight on the collimator and match the reticle of the telescope with the collimator reticle pattern. In other words, if you see 10 and 15 in the collimator and the reticle slopes up from right to left, you match the left part of the telescope reticle with the collimator reticle pattern.



If the numbers don't jibe, you're on the wrong side of the collimator reticle.

Suppose the weapon jumps during firing. All you have to do to bring it back to the right direction is traverse it until the reticles are again alined.



PARTS AND PUBLICATIONS

You'll never get finger cramps from ordering collimator parts. You can replace the 12-volt lamp, FSN 6240-539-9659, for lighting the reticle with towed artillery . . . the 28-volt lamp, FSN 6240-186-6276, for self-propelled weapons . . . and the BA 200/U dry cell batteries, FSN 6135-050-3280, for the M9 battery power supply. That's it.

As for publications, there's only one — at the moment — that has scoop on the collimator, at least for firing batteries. That's TM 9-1015-234-12 (Mar 65) — for the M102 105-MM towed light howitzer.

There are stops on the collimator to keep it from going too far in elevation or depression. Please not to fight the stops.

It's been said before . . . and here it is again. When you're not using the collimator, put the cover on.

Keep all exposed parts clean and dry.

If any shiny spots show on your collimator from paint peeling or getting chipped off, get out the spray can or brush and put a dull-type coat on it. Besides protecting the metal, this'll help keep Charlie from spotting your outfit.

Any paint will do in a pinch, but try to use Enamel, olive drab semigloss, No. 24087 . . . FSN 8010-297-2124 — 1-gal can. It's listed in Change 1 to your M102 howitzer's TM.

Ease up when any of the different knobs on the collimator have been turned as far as they can without more muscle.

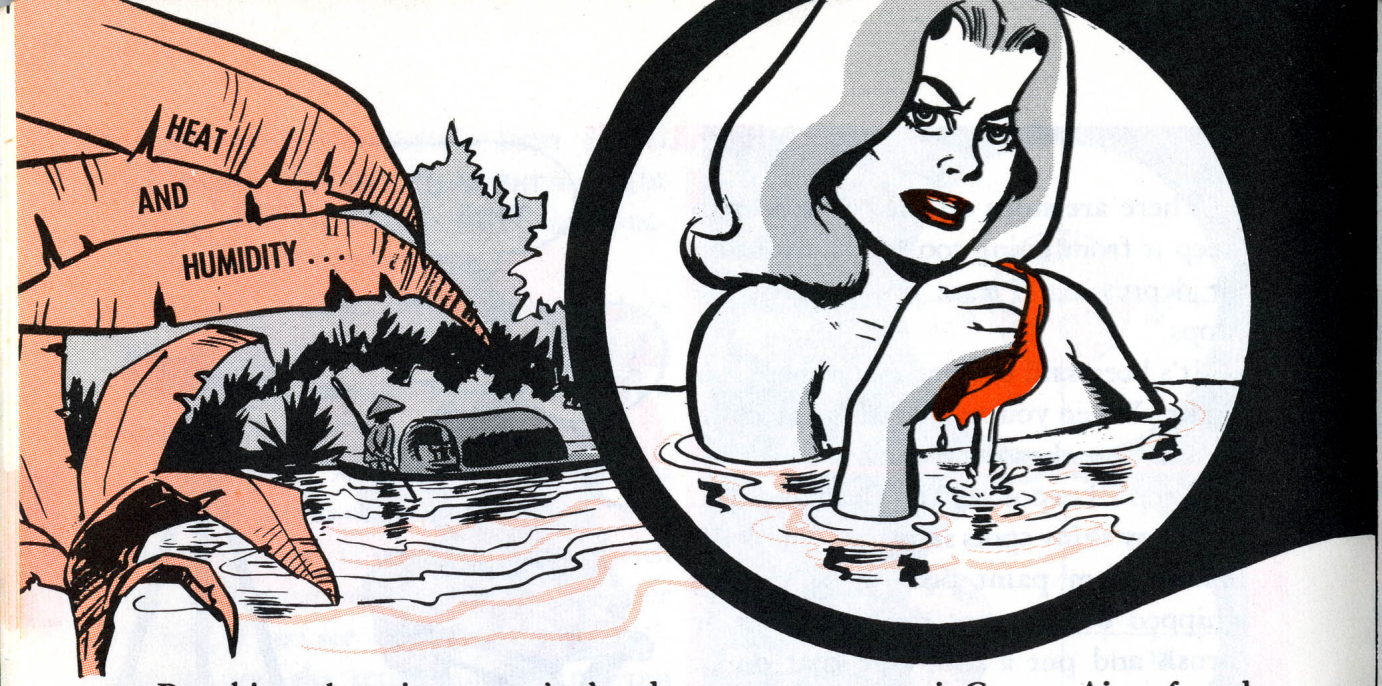
If you have the time, bury the connecting cables a few inches in the ground for protection.

Clean the optics with lens paper and alcohol. You can get 100 7x11-in sheets of the paper from Fed Cat C6630/6640-IL (1 Nov 66). They come under FSN 6640-559-1385.

Although alcohol will do a real good job on the optics, Cleaning Compound, optical, lens, liquid, is also a good bet. FSN 6850-227-1887 is worth 1 quart. It's on page 4.64 of Fed Cat C6800-IL (1 Jul 67). One thing about the compound, though . . . it's not made for freezing weather.

You don't need an armed guard, but it pays to put something like a rope around the collimator to keep people from walking into it. The guy who somehow manages to knock down or just move the collimator shouldn't put it back where he thought it was and forget it. New settings will be in order. Report it.

PS END



Put binoculars in a guy's hands and he knows that he'll bring trouble in a hurry if he drops 'em.

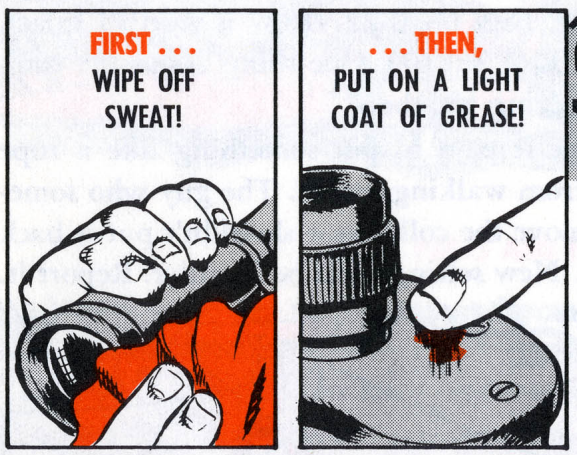
It takes longer than a bounce, but heat and humidity also have a way of fouling up binoculars and other sighting and fire control gear—like range finders, aiming circles, telescopes and periscopes.

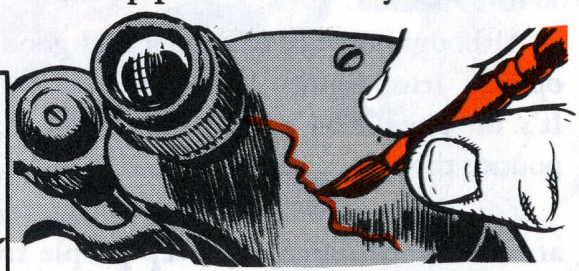
You're not going to beat the climate, but you can at least battle it to a draw.

One thing to remember is that your sweat is rough on metal—it can lead to corrosion of the unpainted parts. So after you handle the equipment, wipe off the sweat and put a thin coat of grease on the bare metal spots. What you want to use is Grease, Aircraft and Instrument, MIL-G-23827. Page 4.14 of Fed Cat C9100-IL (Sep 67) shows different size containers, like FSN 9150-985-7245 for an 8-oz tube.

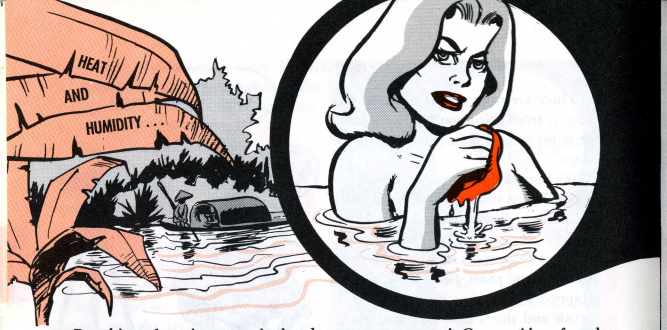
It's also a good idea to put a little grease on things like screws and pins to keep 'em from rusting. A new coat of grease once a week ought to do it.

If any painted places get scratched, chipped or worn, get to 'em with some touchup paint as soon as you can.





If the lens or other glass in the gear gets wet, use lens tissue paper that's been folded a few times (to keep oil on your skin from getting through) to get rid of the water. Be sure you use plain lens tissue—not the silicone-treated kind. Silicones can actually put wear and tear on a lens. Paper with silicones feels stiff . . . and its package reads "silicone-treated."



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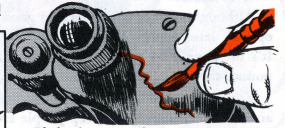

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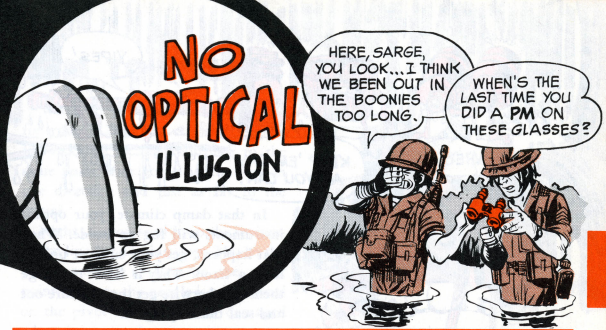
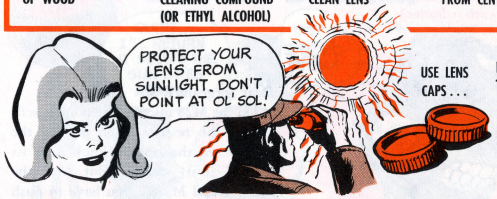


Getting rid of a fingerprint, grease or oil on a lens is more involved.

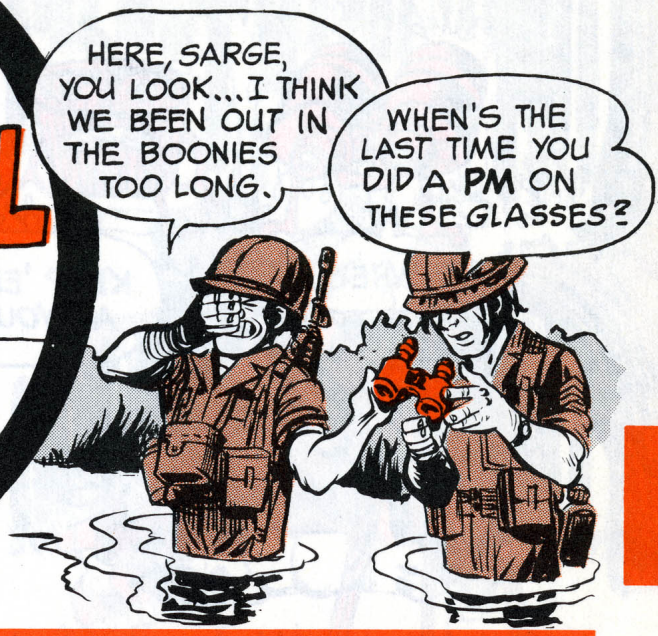


Same goes with the entire piece of equipment. If you're not using your binoculars, f'rinstance, put 'em in their case, a case that's not dirty or wet.

When it comes to a rubber eyeshield . . . clean it with mild soapy water—not dry-cleaning solvent or paint thinner. Once the eyeshield is dry—keep it away from high, dry heat—dust on some technical talc.

DLSO MORE

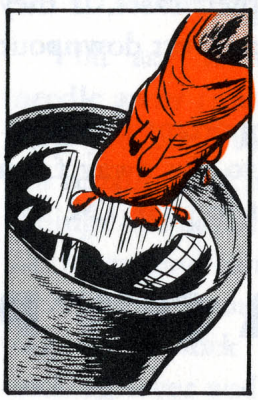
NO OPTICAL ILLUSION



Getting rid of a fingerprint, grease or oil on a lens is more involved.

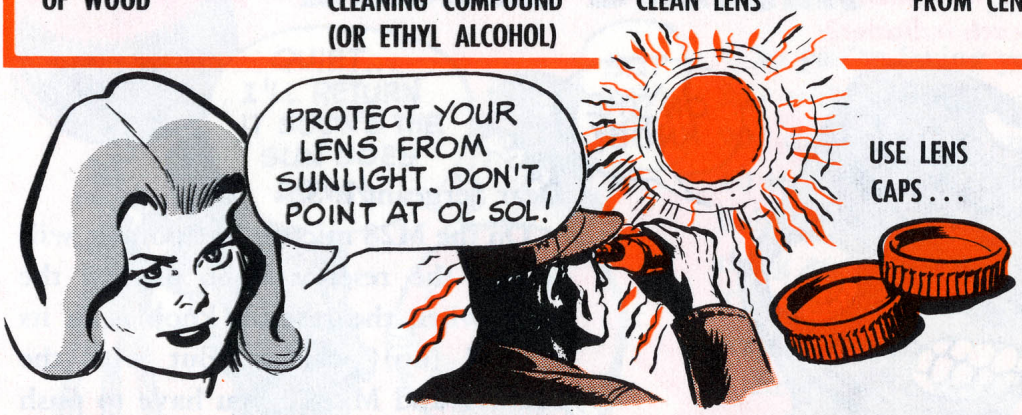
WRAP LENS TISSUE AROUND SLIVER OF WOOD

DIP IN LIQUID OPTICAL LENS CLEANING COMPOUND (OR ETHYL ALCOHOL)



SHAKE AWAY EXCESS... AND CLEAN LENS

WITH FOLDED LENS TISSUE—RUB FROM CENTER OUT



USE LENS CAPS...

BE SURE THERE'RE CLEAN & DRY INSIDE

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When it comes to a rubber eyeshield . . . clean it with mild soapy water—not dry-cleaning solvent or paint thinner. Once the eyeshield is dry—keep it away from high, dry heat—dust on some technical talc.

PS MORE

In that damp climate, your optical instruments will fog up inside. When that happens, get your support unit to lend a hand. They'll have to purge them or otherwise get the moisture out and seal them up again.

To help prevent this, keep them under cover as much as possible. When not in use, keep them in their cases. If they've got to stay out on equipment, keep them protected from a direct downpour. Keep them as dry as your situation will permit.

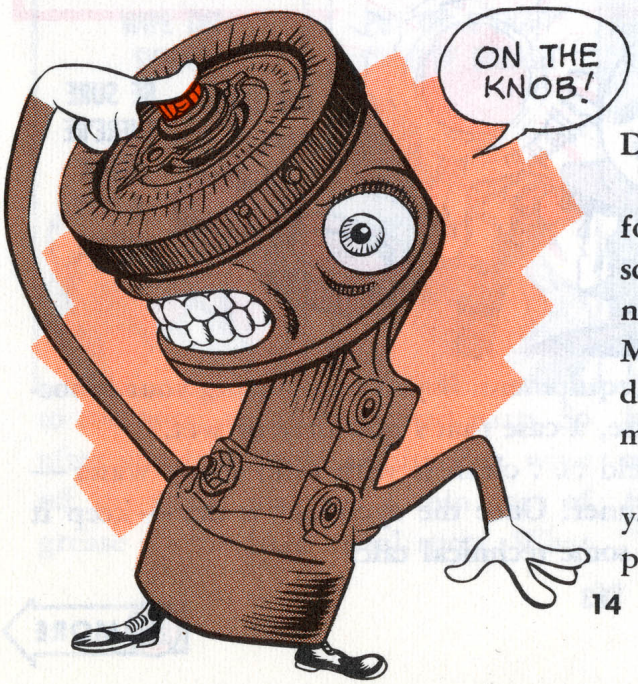
One of the most important things to remember—no matter what part of the world you're in—is to shy away from disassembling or making adjustments that're not spelled out in your TM.

A FEW POINTERS

Dear Half-Mast,

How about unconfusing me?

Just what is the story on when and how the micrometer pointer is supposed to turn on the M28, M28A1 and M28E2 azimuth indicators? Does the pointer work the same for each indicator?



Dear Sergeant I. S.,

On the M28 micrometer pointer will follow the resetter knob around the scale when the resetter knob is in its normal (up) position. But with the M28A1 and M28E2 you have to push down on the resetter knob to turn the micrometer pointer.

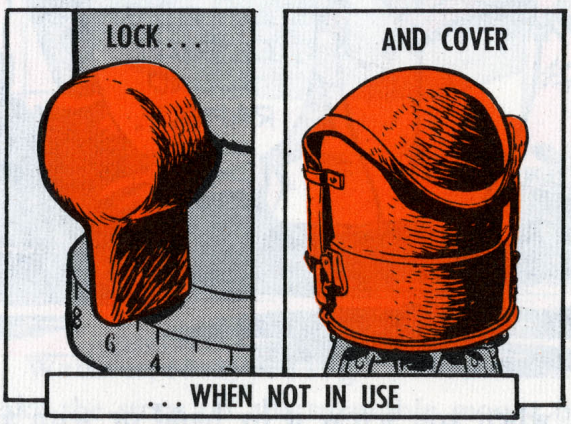
If things don't work this way with your azimuth indicator, call your support people.

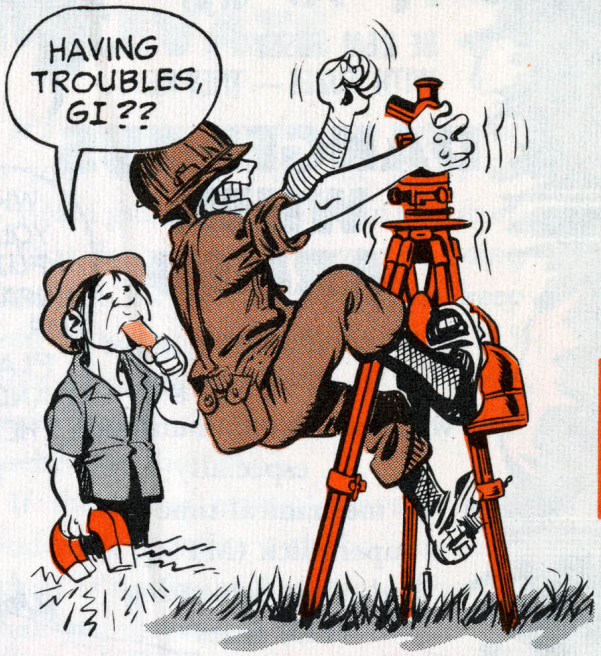
Half-Mast

AIM TO PLEASE

What do you do when the needle for your M2 aiming circle acts up—like sticking or not returning to the same point after going all the way in one direction and just as far in the other?

Right . . . you send it up the maintenance line for a going over. Maybe the pivot or needle is dirty or the pivot point is flat or the needle is unbalanced or the pivot assembly was damaged when it was made.

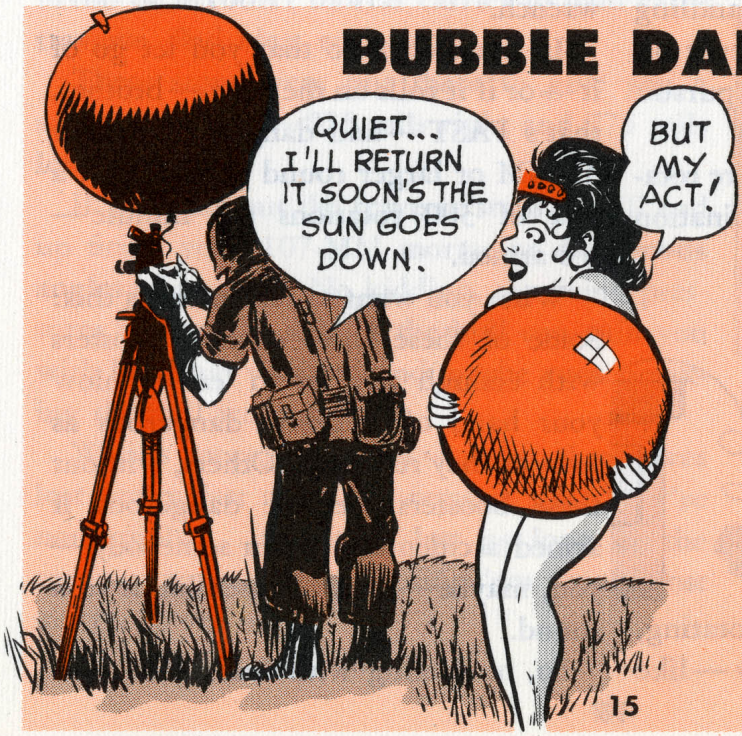




You say something's pulling the needle away from magnetic north? Before you send the aiming circle back for repair, check it in a coupla locations. Things like motors, generators and iron in the ground can make like a magnet.

And when you're not using the aiming circle, lock the needle with the locking lever and put on the cover.

BUBBLE DANCER



So you're laying your artillery with your Brunson Model 901 theodolite . . . and maybe 10 seconds after you have the bubble in the vial centered, the thing goes out of adjustment. The bubble just plain won't stay centered.

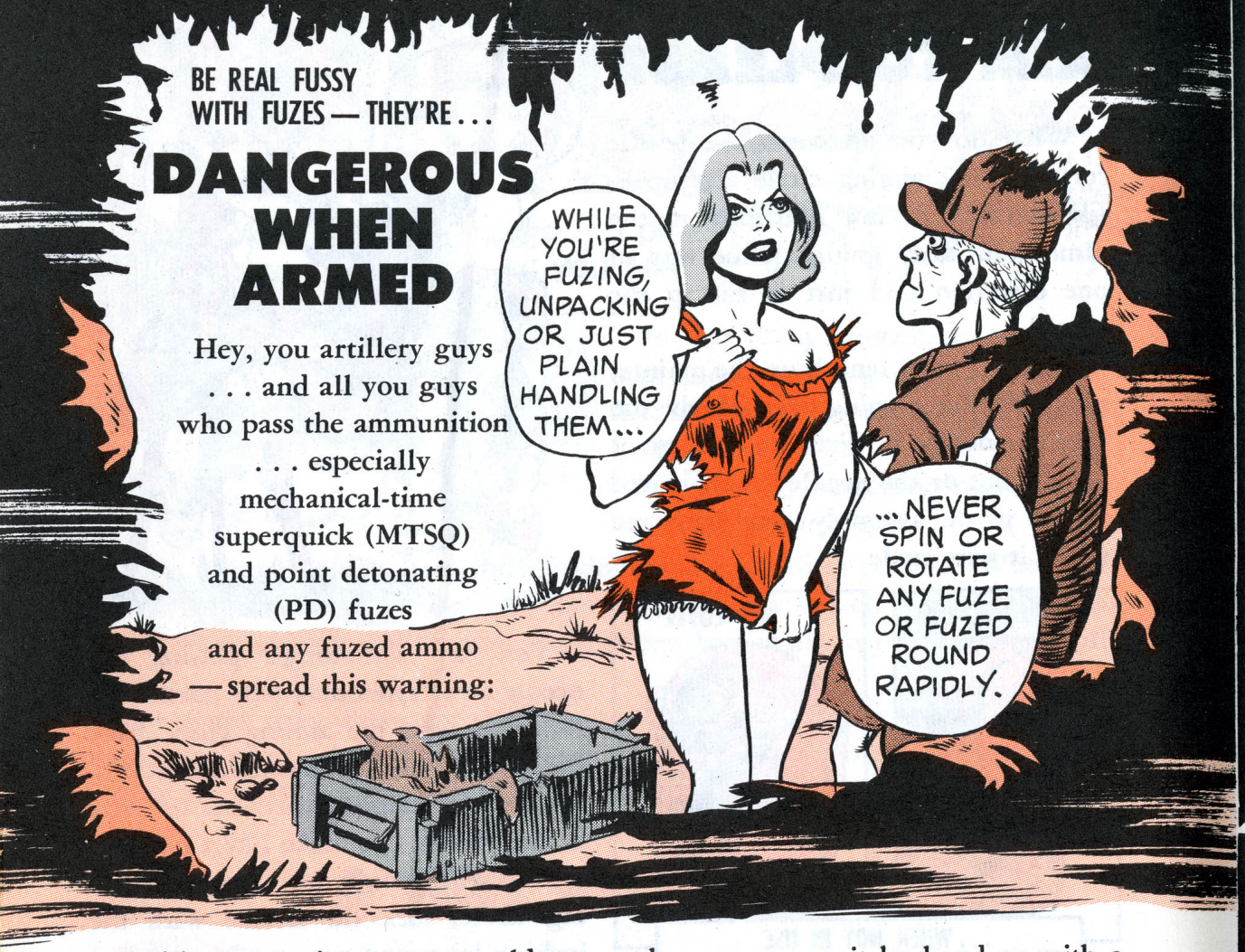
Ready for a simple PM answer?

The sun. That's right . . . the sun's heat can throw the theodolite out of adjustment. So . . . keep it shaded.

BE REAL FUSSY
WITH FUZES — THEY'RE . . .

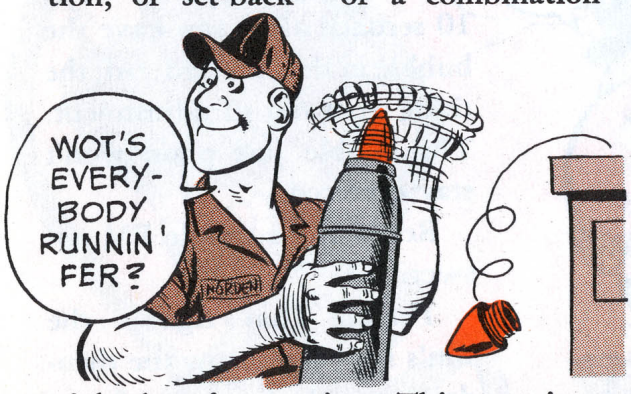
DANGEROUS WHEN ARMED

Hey, you artillery guys . . . and all you guys who pass the ammunition . . . especially mechanical-time superquick (MTSQ) and point detonating (PD) fuzes and any fuzed ammo — spread this warning:



Without meaning to, you could arm the fuze and then any rough handling or dropping after that could set it off . . . . with loss of life, liberty and pursuit of happiness — plus equipment.

Artillery fuzes, y'know, require rotation, or set-back — or a combination of both — for arming. This rotating, though, must be done slowly — like when you screw it by hand or with a wrench.

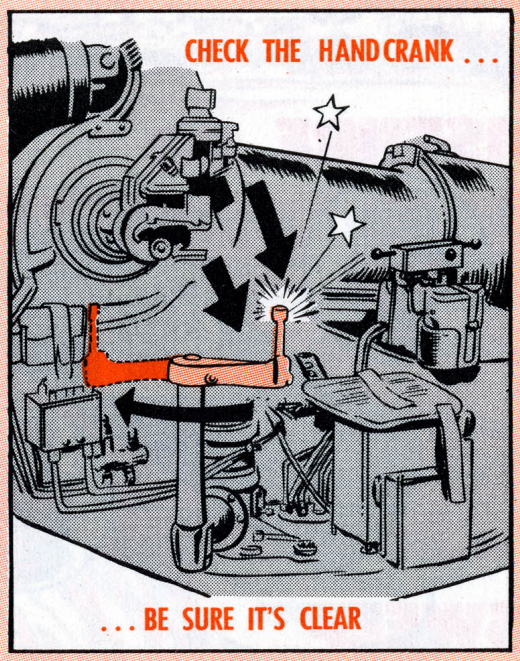


If you spin it so that you let go of it — or if it rolls on the floor — brother, that's FAST — and dangerous! If any 37-MM or larger round gets spun at a rate of 300 rotations per minute — it's armed.

What you want to remember is this: Some of these fuzes contain boosters with enough powder in 'em to blow your hand off. They're dangerous as soon as they're armed. Others, without these boosters, become dangerous if armed accidentally when somebody — you, maybe — goes to assemble it to a round.

So, no fooling with fuzes, yes?

BEFORE YOU ELEVATE



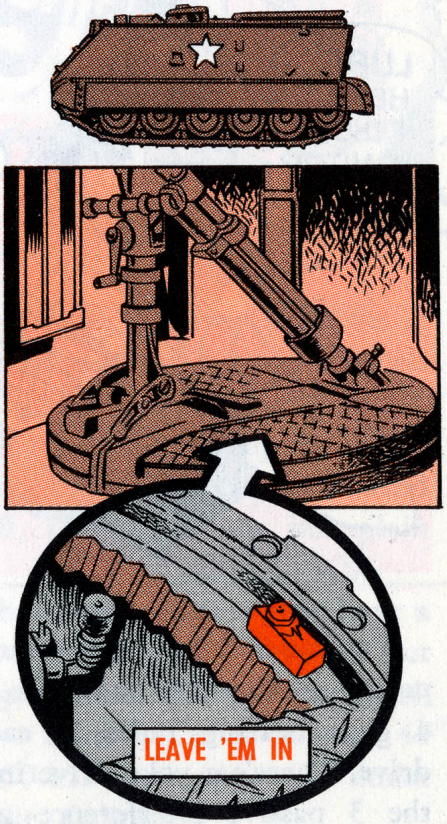
It's reminder time for you guys who do your shooting with the M107 SP 175-MM gun or M110 SP 8-in howitzer.

That is, watch what you're doing when you elevate the weapon to keep from battering the elbow on the M115 panoramic telescope, the M137 telescope mount or the main mounting bracket for the M137.

If the turret manual traverse gear handcrank is in line with the 'scope and mount, it's going to do some clobbering when you elevate.

In other words, move the handcrank out of the way before you elevate so you won't wind up being depressed.

THE STOPS STAY IN



Watch it, Man, you'll goof the mission if you take the stops off the turntable mount of your M106 or M106A1 mortar carrier to gain extra traverse. Bad idea, entirely.

These stops were put there to give you a safe area of fire—825 mils right and 775 mils left of center.

If you take out the traverse stops, you'll end up firing your 107-MM mortar at dangerous angles of traverse. No kidding, the firing pressures against the side of the hull can ruin you with bending, warping and maybe even breaking the hull welds to boot.

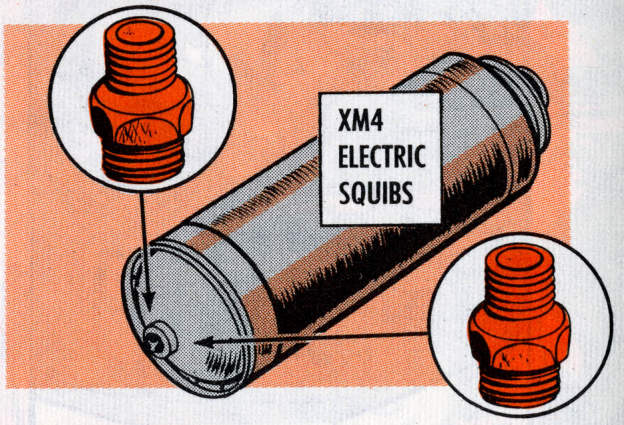
What's more, the stops can get themselves lost pretty fast after you remove 'em. They're non-supply . . . meant to last as long as the carrier, maybe longer. Losing 'em would cost mucho downtime.

So, leave 'em be, huh?

FOIL MOISTURE

It's mighty easy to accidentally break the foil seal on the XM4 electric squibs for your Nike-Hercules M30 and M30A1 rocket motors. And if the foil splits open, moisture gets into them. Next comes corrosion and then the electrical circuit goes to pot.

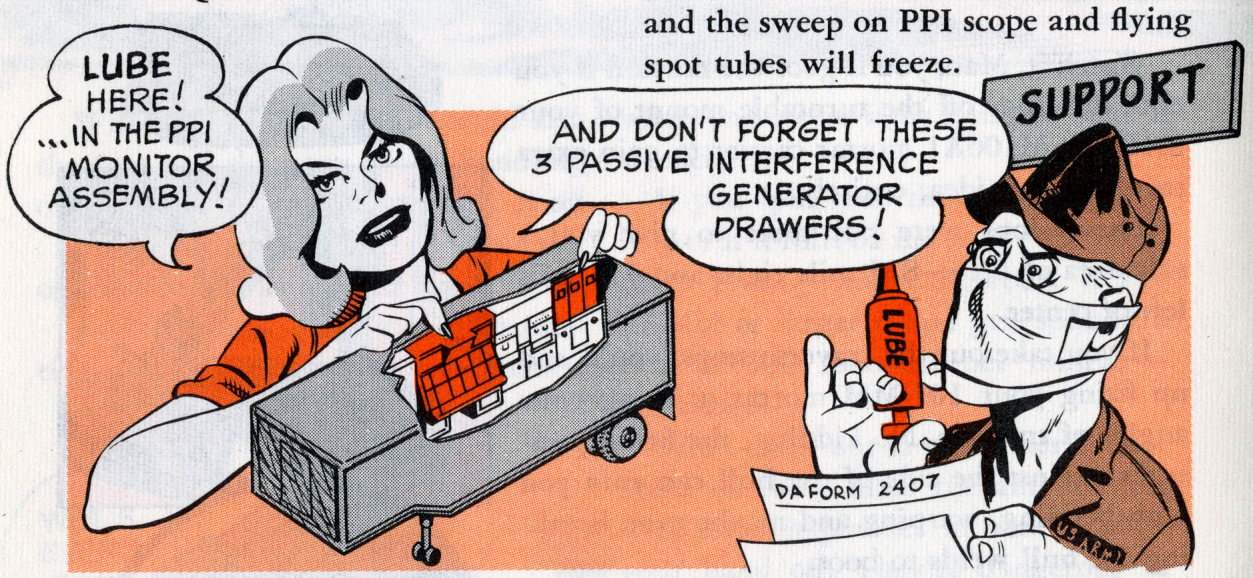
So, please to handle the squibs with care.



CLEAN SWEEP

Nothing like heading off trouble before it starts in your Nike-Hercules AN/MPQ-T1 simulator station.

You can do it by asking your support people—every 180 days—to lube the 4 gear bearing holes in each yoke drive. There's a yoke drive in each of the 3 passive interference generator drawers . . . and a fourth in the PPI monitor assembly. Without lube, the gear train in each yoke drive will bind and the sweep on PPI scope and flying spot tubes will freeze.



When your support unit gets your DA Form 2407 (job order), it will go to work on the gears with molybdenum disulfide grease, MIL-M-7866. Fed Cat C9100-IL (Sep 67) shows FSN 9150-753-4830 is worth a 1-lb can.

NIKE HERCULES

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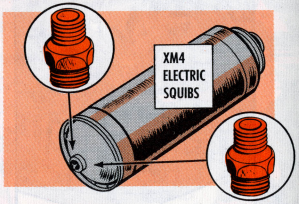

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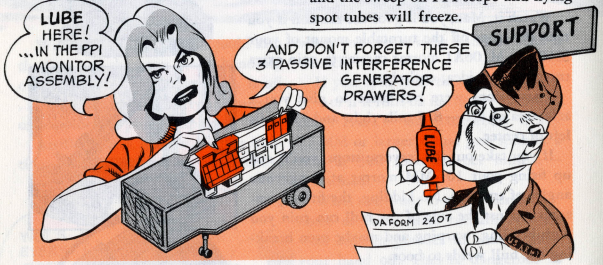

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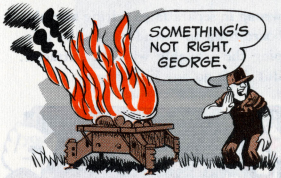
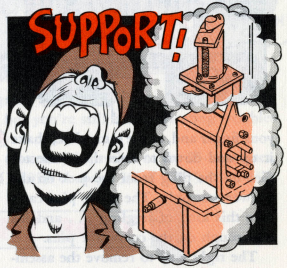
OIL + ARC = TROUBLE

It's one thing for you to get all fired up over something, but when your Nike-Hercules target-ranging radar starts spouting flames, that's another story.

And fire is what can happen if the L1 and L2 reactors and the T3 and T5 filament transformers in the modulator subassembly come apart at the seams and spill oil.



So when you make your weekly checks and adjustments on the TRR, see if there's a bulge to the reactors and transformers. Also be on the lookout for oil coming from the backward wave oscillators. And look for frayed wire insulation and bum soldered connections around the clipper tubes and transformers.



PAYS TO SPRAY

You can come up with 10 cases of the fits in trying to take stubborn screws out of the access doors on your Nike-Hercules missile.

Seems that some screws in the supply system are minus a coating of dry film lubricant. And without this stuff, the screws are just plain tough to get out.

You can spot these screws fast—they have a sort of gold or silver finish. And before you put any in a missile, spray them with dry film lubricant. You'll find a 12-oz can of it on page 44 of TM 9-1410-250-15P/1/1 (Apr 67) under the name: Graphite, Colloidal.

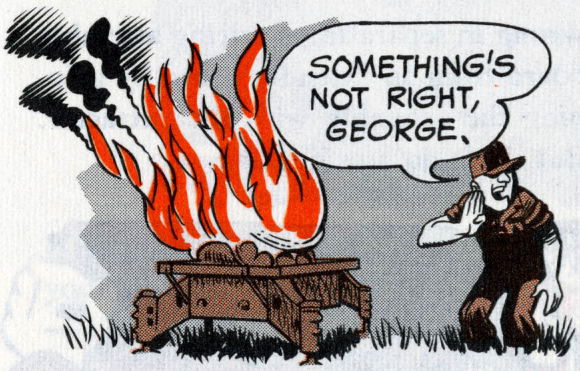
(PS) MORE

ERCULES

OIL + ARC = TROUBLE

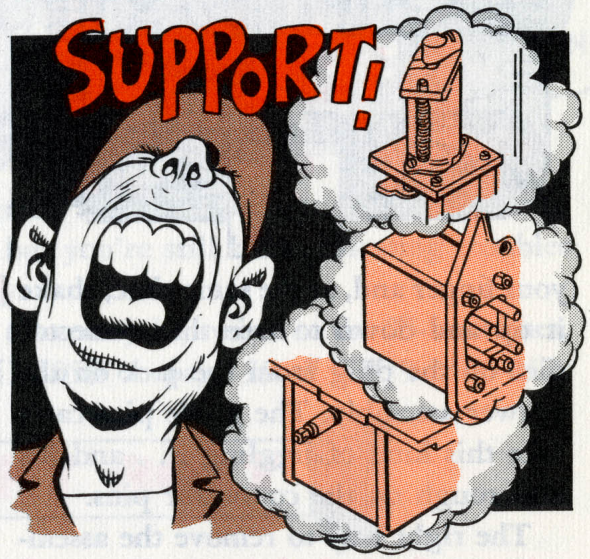
It's one thing for you to get all fired up over something, but when your Nike-Hercules target-ranging radar starts spouting flames, that's another story.

And fire is what can happen if the L1 and L2 reactors and the T3 and T5



filament transformers in the modulator subassembly come apart at the seams and spill oil.

So when you make your weekly checks and adjustments on the TRR, see if there's a bulge to the reactors and transformers. Also be on the lookout for oil coming from the backward wave oscillators. And look for frayed wire insulation and bum soldered connections around the clipper tubes and transformers.



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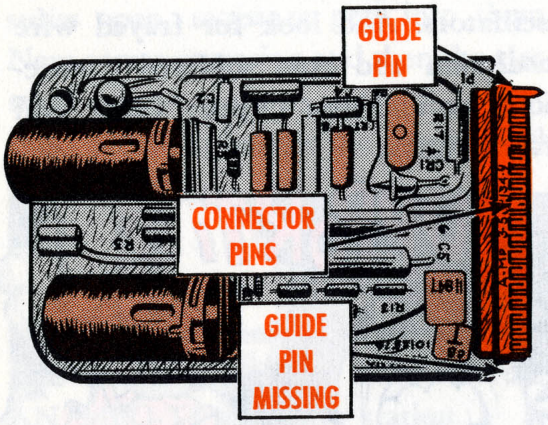
P.S. MORE

THE RIGHT KIND OF PULL

You've got to have a pull — the right kind — when you go to remove the kind of printed wiring assembly you find in electronic drawer "A" of the operator's console in your Nike-Hercules AN/MPQ-T1 radar simulator station.

The wrong kind of pull is the kind where you pull on the assembly with

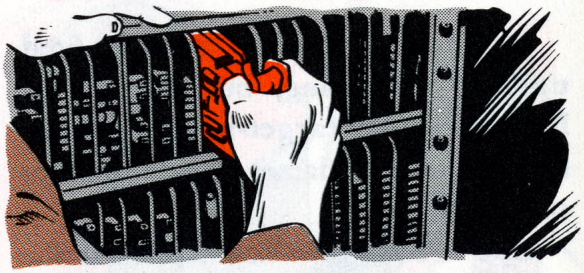


your finger and, at the same time, shake it up and down to free the connector pins on the plug from the jack on the drawer assembly. The guide pins can't take this kind of jiggling . . . and it's also rough on the connector pins.

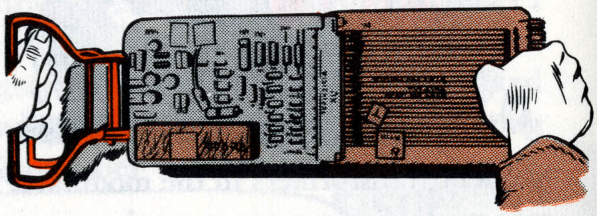
The right way to remove the assembly is with your extractor tool.

It grips the assembly edge . . . lets you pull it straight out — easily.

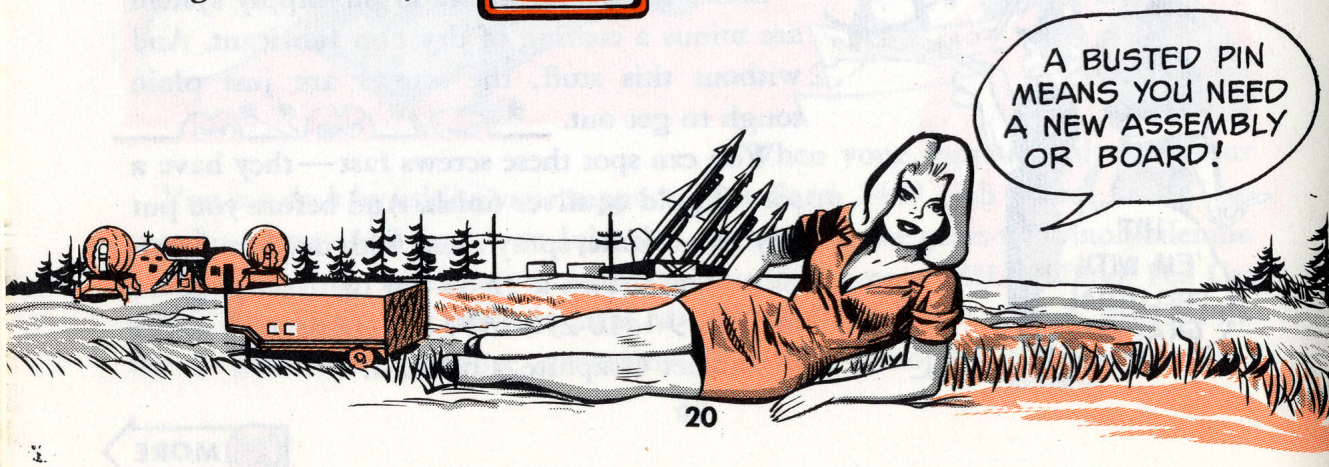
The tool's also the thing to use when you want to remove an extender board from the drawer. And, you can't go



wrong in separating a wiring assembly board from an extender board by gripping the assembly with the extractor. But don't do any jiggling.



If you happen to break a guide pin, don't fiddle around with the wiring assembly or extender board it was on. You can really bugger up the connector pins without the help of the guide pins when you go to put the assembly or board in the electronic drawer.



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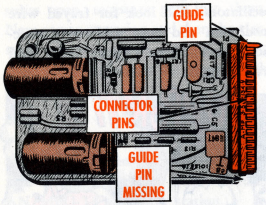

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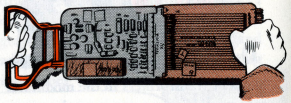

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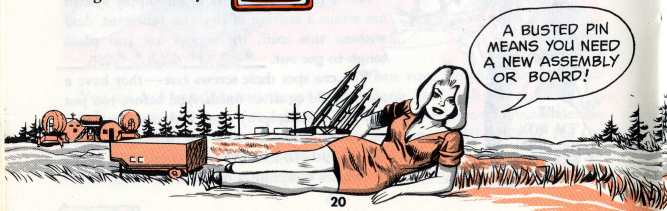


CUT IT OUT

Dear Half-Mast,

The plastic escape hatch covers on our Nike-Hercules vans busted some time back, but we haven't been able to come up with replacements. Neither has our support unit.

SSG. P. H.

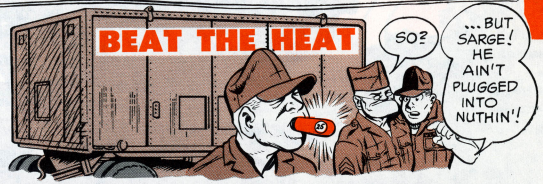
Dear Sergeant P. H.,

That's because there are no ready-made covers. Your DSU has to get a sheet of plastic and cut out covers for you.

FSN 9330-225-4651 is good for a sheet 36-in x 18-in x 1/16-in. The plastic shows up in Fed Cat 9300-ML-A-CB2 (1 Oct 67).

Half-Mast

BEAT THE HEAT



You say you've got the new metal grills for the light fixture assemblies in your Nike-Hercules trailer vans, but you're still having heating troubles — like burned-out lamps?

Try this: Check the lamps. If they're 60-watt-jobs, switch to the 25-watt ones, the kind you find under FSN 6240-143-3059 on page 39 of TM 9-2330-212-24P (Mar 66).

THE RIGHT BOLT

Dear Half-Mast,

Just what machine bolts are we supposed to use to mount the hydraulic pumping unit in our Nike-Hercules missile — AN5-13A or AN5-14A?

SSG D. B.

Dear Sergeant D. B.,

You want the AN5-13A — the one that's 1 11/32 inches long . . . goes by FSN 5306-151-2626 . . . and is on page 24 of TM 9-1410-250-15P/1/1 (Apr 67).

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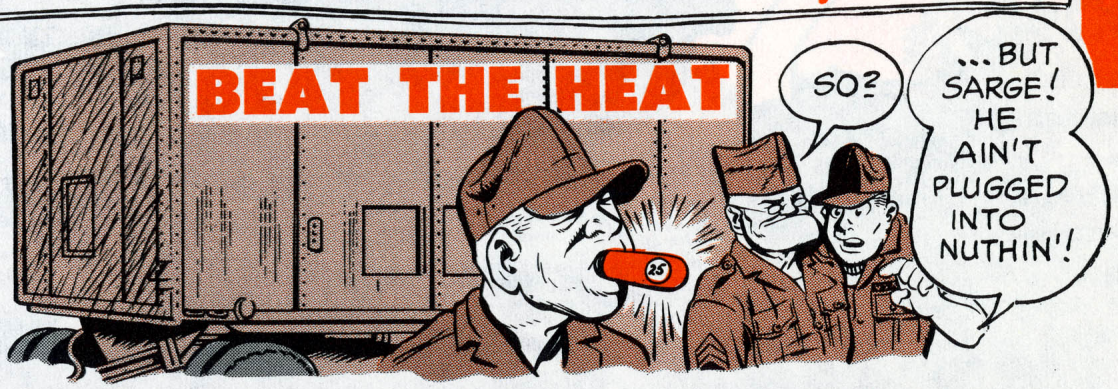

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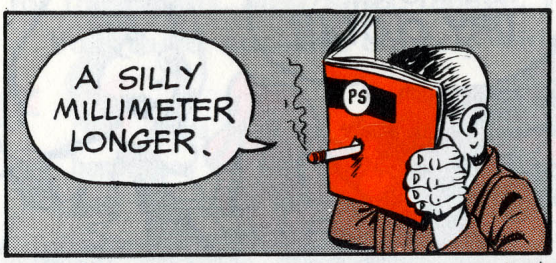

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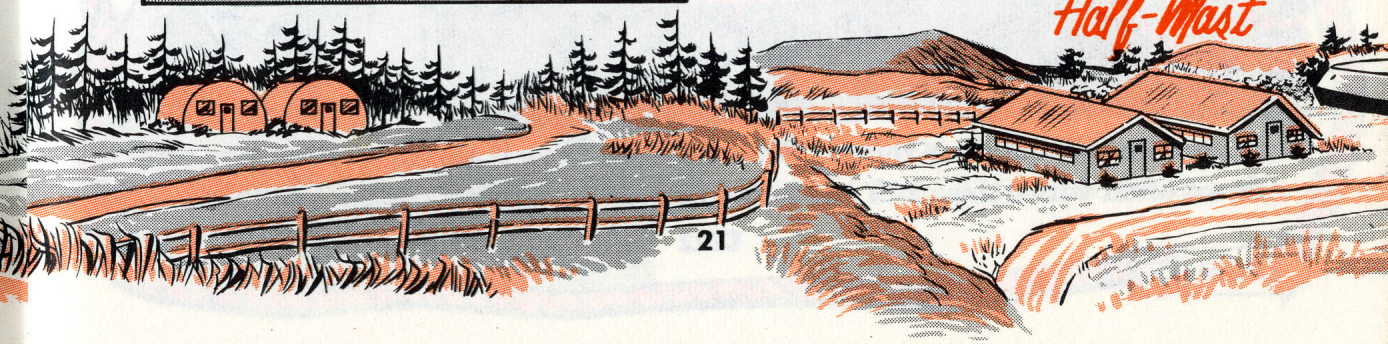

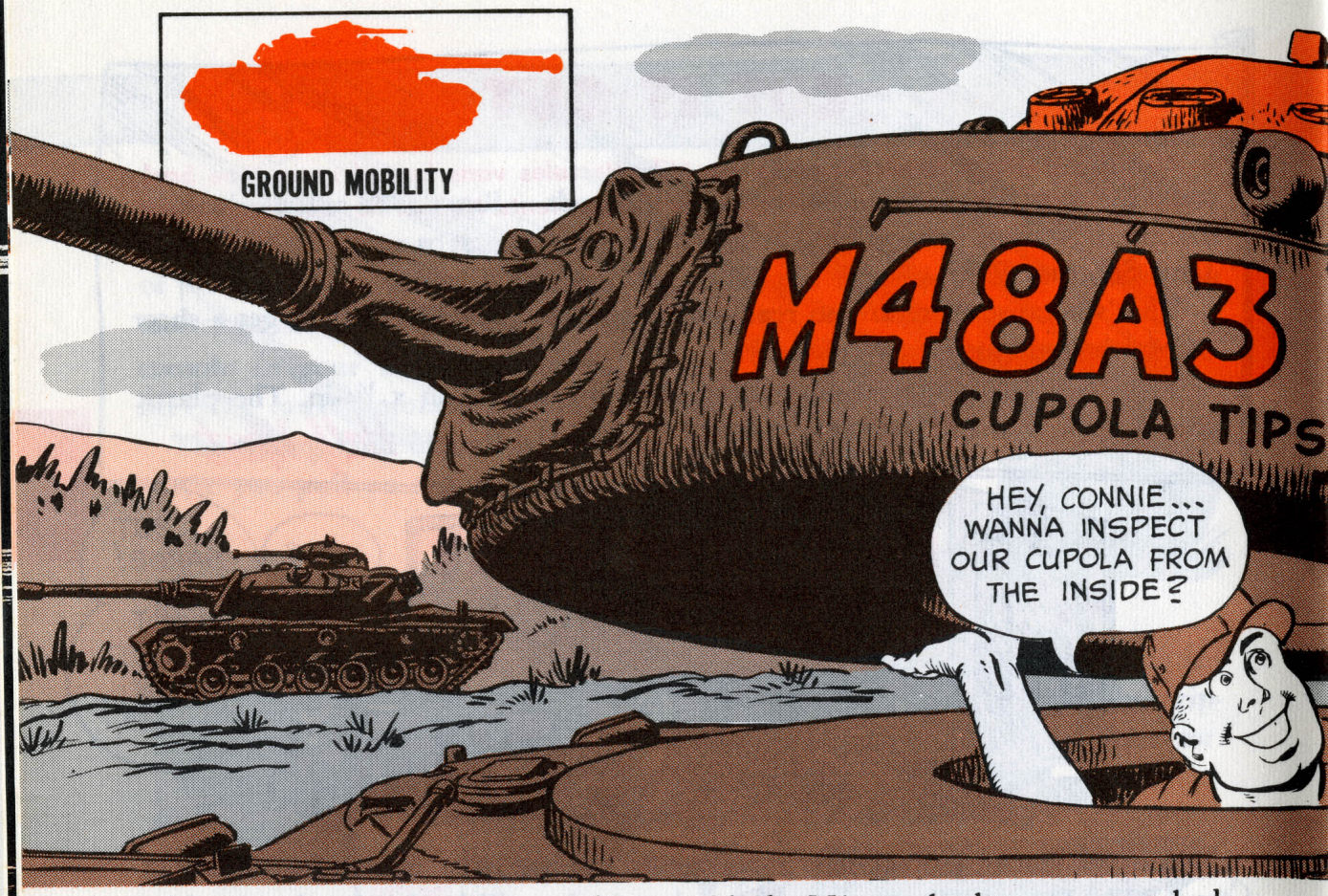

In VN-land you may have problems with the M1 cupola that you never had at home.

Like fungus . . . for fungus fighting you need a dry cloth and plenty of energy. Rub everything as often as you need to—even daily—because fungus can grow on anything that is not clean.

Trying to do it the easy way by putting oil on the rag will definitely not work. Oil is a treat for a fungus. It makes him so happy that he multiplies by the billion.

He likes oil and dirty things. What he doesn't like is any area that gets rubbed down often with a dry cloth and he will not hang around a place like that.

GROUND MOBILITY

M48A3 TANK

CUPOLA TIPS

HEY, CONNIE... WANNA INSPECT OUR CUPOLA FROM THE INSIDE?

NO THANKS! I'M DOING FINE OUT HERE!

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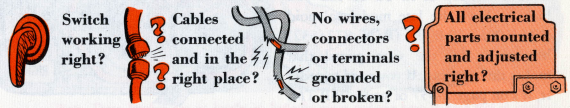
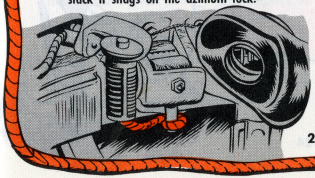
If some of your cupola electrical equipment is not working right, be sure the power is OFF, and then make this fast eyeball check before you holler for help:



Once you make sure your trouble is not in any of the above, yell real loud for the experts. Most times, though, you can locate the trouble yourself.

Your turret mechanic can help with problems.

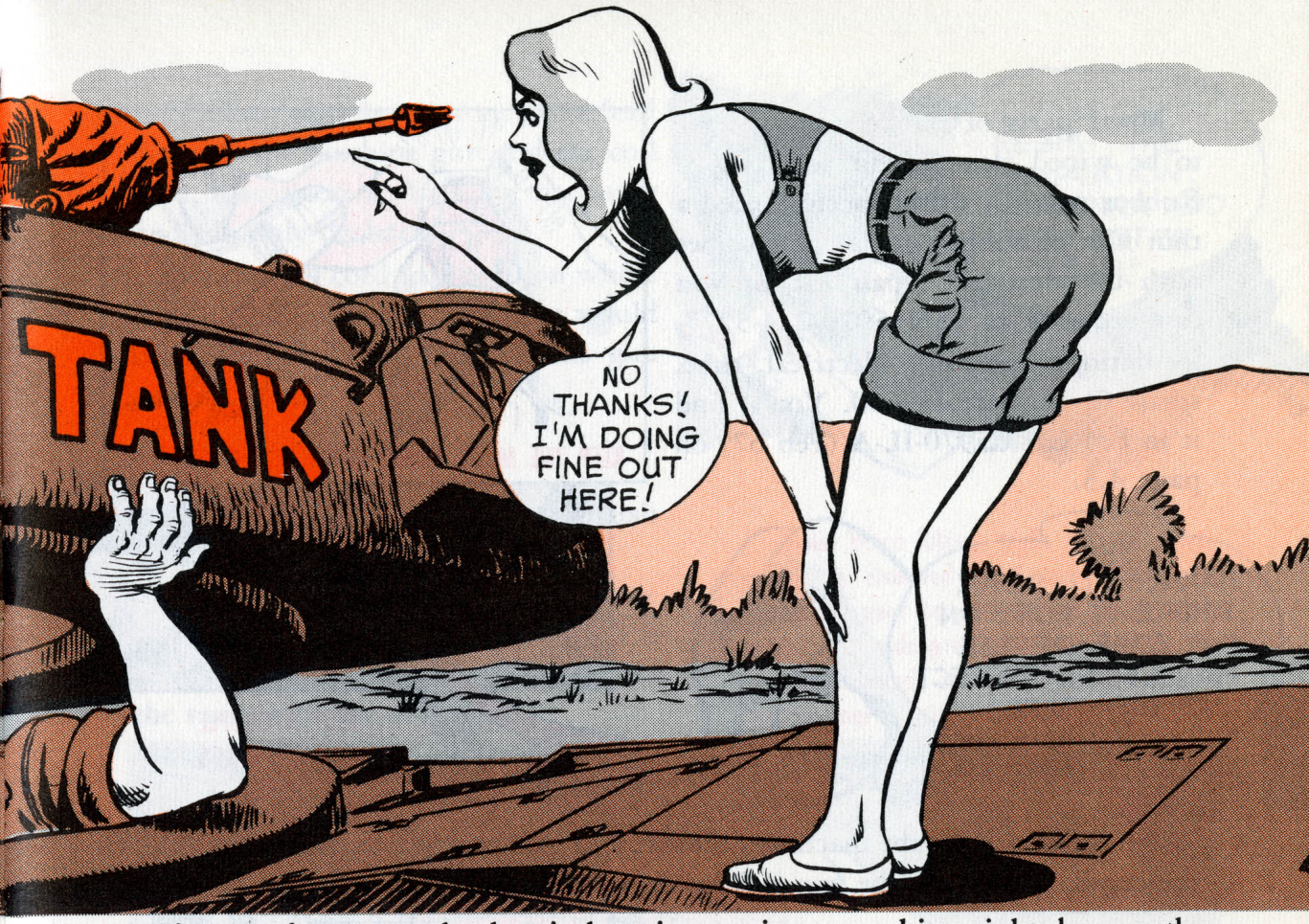
1 Cable from the elevation screwjack handle can be worn out or it can be so slack it snags on the azimuth lock.



A cable with excess slack can be snugged up at the first clamp. Be sure to leave enough slack for free operation of the screwjack handle.

A replacement cable is ordered as switch, control screwjack handle assy, FSN 1005-399-6667, as listed on page 2-424 of TM 9-2350-224-25P (Jan 66).

MORE



If some of your cupola electrical equipment is not working right, be sure the power is OFF, and then make this fast eyeball check before you holler for help:

Switch working right?

Cables connected and in the right place?

No wires, connectors or terminals grounded or broken?

All electrical parts mounted and adjusted right?

Once you make sure your trouble is not in any of the above, yell real loud for the experts. Most times, though, you can locate the trouble yourself.

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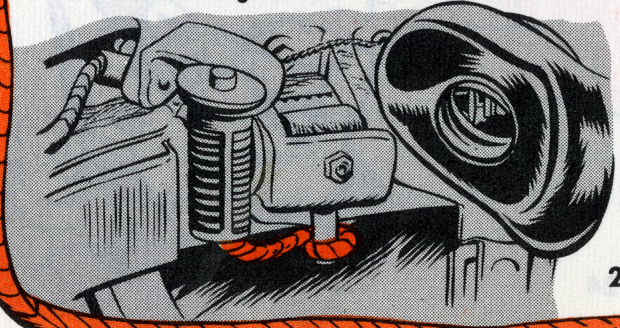

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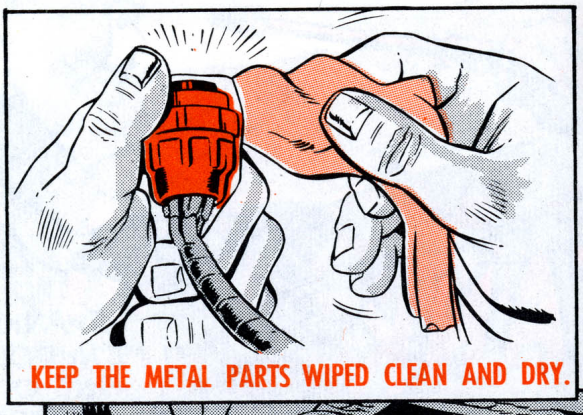
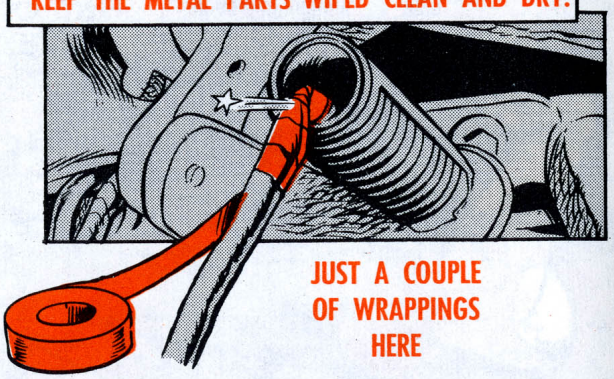
P.S. MORE

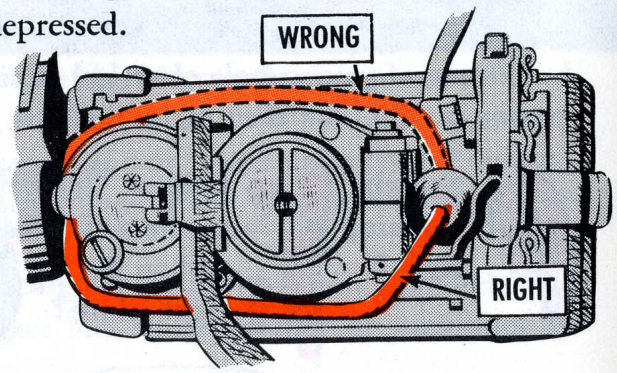
Metal parts of the connectors have to be wiped clean of dirt or fungus. Rubber parts of the connectors need a thin film of rubber grease that comes with the electrical repair kit, or you can order it as FSN 5970-224-5277, insulating compound, electrical, tube, small (2 oz) MIL-I-8660. You'll find it in Fed Cat C5970-IL-A (Feb 67) on page 4.3.



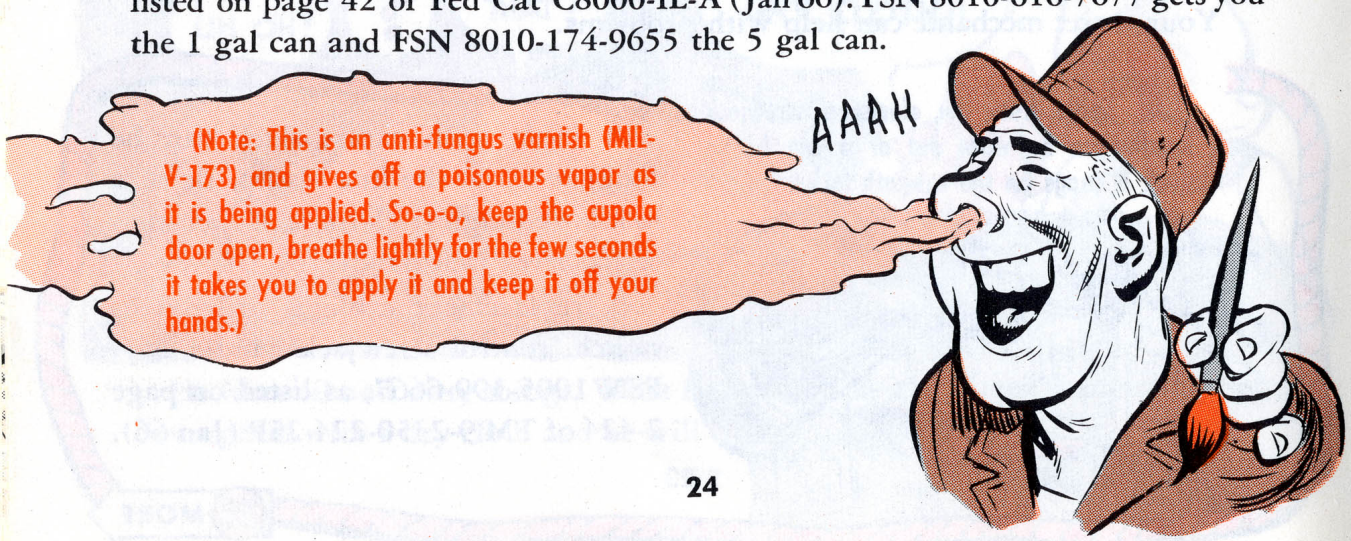


2 Wiring from the machine gun solenoid gets pinched on the underside of the cupola roof when the gun is fully depressed.

Run the wire under the solenoid instead of on top of it. To do this you have to have the late model solenoid FSN 1005-630-0901 (P/N 8724532) because it has the wire guard that makes this possible. If you need to order it, it's on page 2-557 of your -25P TM.



To protect the solenoid against water and fungus, first make sure its surface is absolutely clean and free from oil and then coat it lightly with the varnish listed on page 42 of Fed Cat C8000-IL-A (Jan 66). FSN 8010-616-7677 gets you the 1 gal can and FSN 8010-174-9655 the 5 gal can.



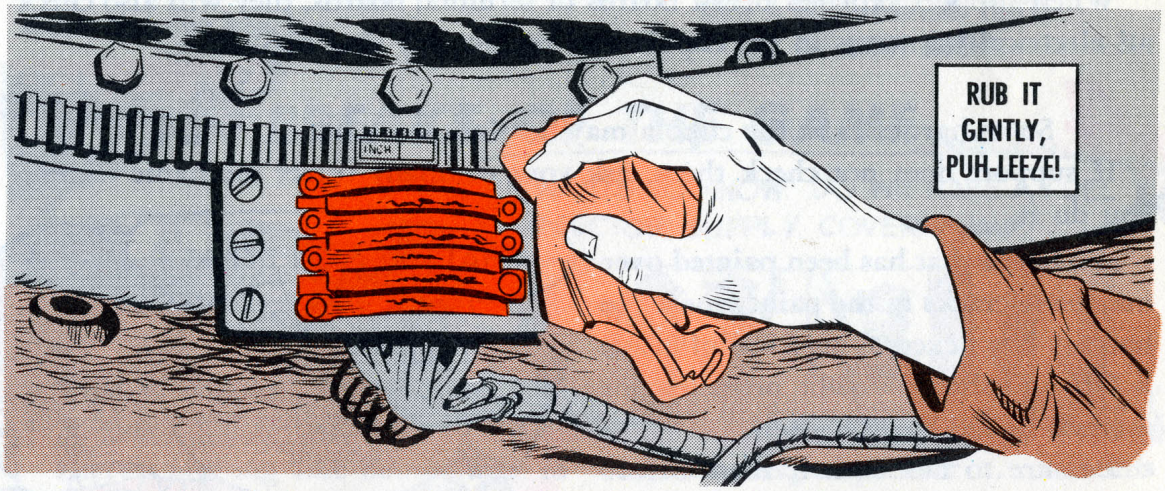
If some joker has put an extra lead between the machine gun and the coil cord, disconnect it. It is not necessary and can only do harm.

Get the coil cord in a position where it won't hit anything sharp that would cut it as you swing the machine gun around.

3 Cupola slip ring and brush boards may need cleaning.

Rotate the cupola until you have one of the 2 brush boards in sight. Rub it gently with a soft, clean, cloth. Now do the same with the other one.

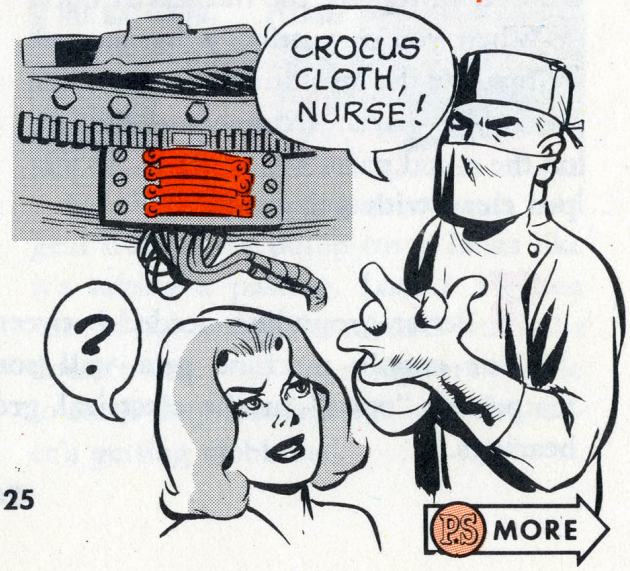
(Note: When lubing, make sure all excess grease is removed from inner lock gear, traversing gear box, main gear and mating parts. Just a drop or so of stray grease on the brush boards or terminal board can give you a poor electrical connection.)

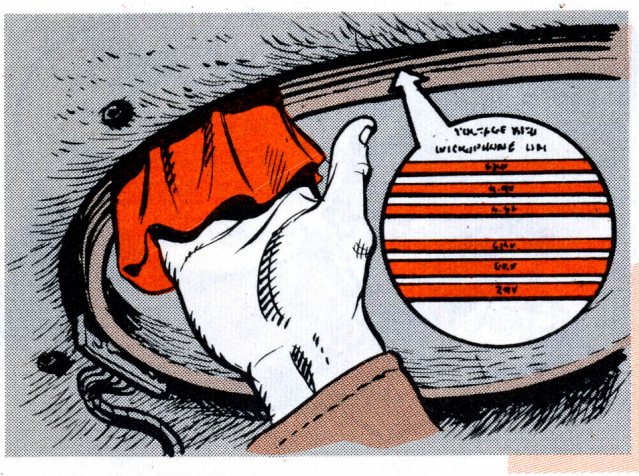


(Note: These brushes are as fragile as butterfly wings and you have to keep that in mind all the time you're cleaning them. If you break just one of the 7 brushes the whole harness has to be replaced. Wipe with your cloth in the direction of the brushes, not crosswise or you'll break 'em for sure.)

If, after cleaning, you can see that the brushes are burned, worn, or otherwise not fit for service, call your support to replace 'em.

It might be that your support mechanic can save the brushes by **lightly** burnishing them with crocus cloth. This is a surgical-type operation that he has been trained for, so let him do it.





You clean the terminal boards by gently working a soft cloth between the ring and turret body at the cupola opening while a buddy slowly rotates the cupola.

(Note: Be careful with the cloth and keep it from getting snagged on the brushes.)

After you have cleaned the terminal boards, eyeball them while your trusty buddy rotates the cupola. (You might find a flashlight will help.) Look for worn or damaged places on the rings and between the rings.

If the terminal boards seem too badly beat up, get your support to crocus 'em or replace 'em.

When support replaces brush boards or terminal boards, they will also check all electrical harnesses in the cupola and replace any that need it.

4 Some harnesses in the cupola may be plain worn out.

If support does not check them, ask your company turret mechanic to help you do it.

A harness that has been painted over may have cracks in the paint where the harness has flexed. This kind of crack is OK and should not be mistaken for a crack in the harness itself.

Be sure to flex each harness before you decide if it is OK or not.

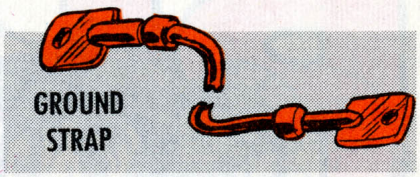
If wires are exposed through the insulation, replace the harness at once.

When you're putting a harness together, use the insulating compound on the rubber parts of connectors but not on the metal parts which are to be wiped clean with a dry cloth.

5 Better grounding needed between cupola body and cradle.

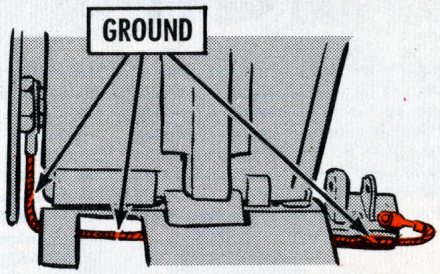
Your cupola machine gun will sometimes stutter and miss because of a temporary "open" in the electrical ground which goes through the trunnion bearings.

For a reliable ground that will work all the time, ask your talented company mechanic to make a ground strap out of these parts that are listed in TM 9-2350-224-25P (Jan 66):



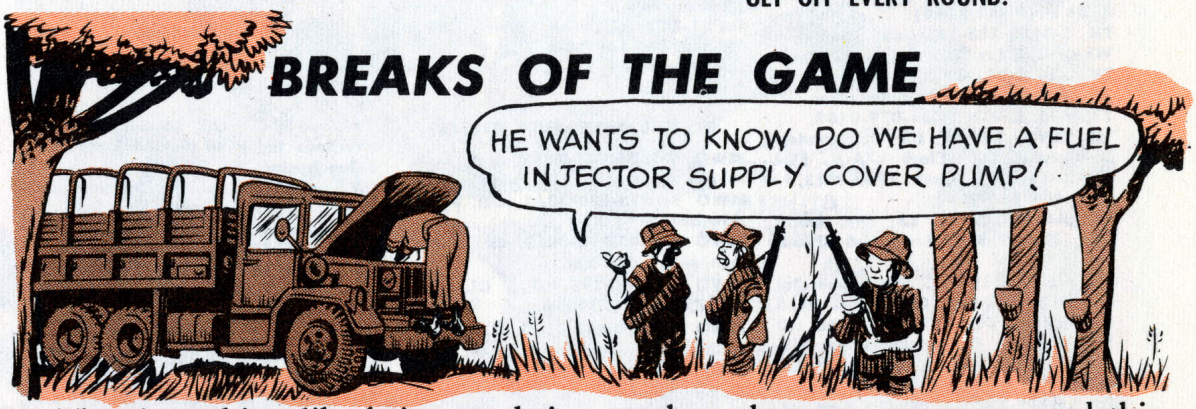
QUANTITY	DESCRIPTION	PART NO.	STOCK NO.	-25P PAGE NO.
1 ea	Terminal	7056705	5940-705-6705	2-179
1 ea	Terminal	7056703	5940-705-6703	2-173
18″	Cable	7056678	6145-705-6678	2-125

He will attach terminal 7056705 to the cradle bearing stud with one (or maybe 2 if they are thin) ⅜″x16 nuts. The other terminal 7056703 will be fastened to the cradle by a screw that is already there for mounting a periscope linkage bracket.



WITH A GOOD GROUND YOU'LL GET OFF EVERY ROUND.

BREAKS OF THE GAME



There's nothing like being stuck in the middle of nowhere with a vehicle that's not going to move until you replace a part or two.

And that's just the spot you might find yourself in with a 2½-ton multifuel truck if you don't take a look now and again at the cover for the fuel injector supply pump.

Loose engine mounts — or loose steering gear bolts — or a combination of these things can cause the head of one of the bolts for the steering-gear-housing cover to beat on the pump cover. A steady diet of this battering can bust the pump cover . . . and this means a loss of fuel pressure as the stuff runs out of the break.

So check those engine mounts and gear bolts if the pump cover looks like it's taking a pasting. Loose? Tighten 'em. If tightening the mounts and bolts doesn't help, ask your support people to see if they can find out why the cover's getting clobbered.

PUBS

This is a selected list of recent pubs of interest to organizational maintenance personnel. The list is compiled from recent AG Distribution Centers Bulletins. For complete details see DA Pam 310-4 (May 67) and Ch 1 (Jul 67), TM's, TB's, etc.; DA Pam 310-6 (Jul 67) and Ch 1 (Oct 67), SC's and SM's; DA Pam 310-7 (Jul 67), MWO's.

TECHNICAL MANUALS

TM 3-1040-214-20P, C3, Oct, Disperser, Riot Control Agent, Port, M3, (FSN 1040-711-8296).

TM 5-2420-213-12, Aug, Tractor, Wheeled, Indus, DED, Cat Mdl 830MB.

TM 5-3431-211-15, C1, Oct, Welding Set, Arc, Inert Gas, Air Reduction 2351-0685, FSN 3431-079-0488.

TM 5-3805-200-15, C2, Oct, Loader, Scoop-type, DED, Clark 17A-M, FSN 3805-678-1735, Clark 175A-M23, FSN 3805-866-3849.

TM 5-4110-208-10, C1, Oct, Refrig Unit, 10,000 BTU, Army Mdl SPE34, 34A.

TM 5-6100-215-ESC, Sep, Generator Set, DED, 100-KW, Con Diesel 4115 1977, Buda DC 100A3-CE, Jeta MD 1001815-W, Stewart-Stevenson SS-100-W WTZD, 15700 WTZD, 19100 WTZD.

TM 5-6115-323-15, C1, Oct, Gen Set, GED, 3KW, Onan 3ACK-4MV/1910D, FSN 6115-906-3686.

TM 5-6115-423-15, Aug, Load Bank, 0-30 KW, AC, Port, Skid Mtd, (Sun Elec Corp GPT-3D-1, GPT-3D).

TM 9-1005-234-14P, Oct, M7A3, M76 Grenade Launchers.

TM 9-1005-257-ESC, Oct, XM18, XM18E1 Armament POD.

TM 9-1005-297-20P, Sep, Armament Subsystem TAT-102A.

TM 9-2350-230-12, C2, Jul, M551, 152MM Armd Recon Veh.

TM 9-4935-250-15P/4/1, Aug, Nike-Herc, Nike-Herc Imp.

TM 10-8110-201-14, (Corr Cy), Aug, Drum, Fabric, Collapsible, Liquid Fuel, 500 Gal Cap, (Nonvented).

TM 10-8340-211-13P, Aug, Gen Purpose Tent, Small, Med, Large.

TM 11-5825-245-25P, Aug, AN/TRN-25 Radio Beacon Set.

TM 11-5895-468-12, Aug, AN/TPX-44 Interrogator Set.

TM 11-6625-847-12, Aug, SM-442/GRC Radio Frequency Simulator.

TM 11-6625-1698-15, Oct, AN/URC-10 Radio Set.

TM 21-300, Jul, Driver Training (WV).

TM 55-2320-209-20-4, Aug, M292/M292A1, Expansible Van Truck.

MODIFICATION WORK ORDERS

MWO 9-1005-249-20/1, Oct, M16, M16E1 Rifles.

MWO 9-1015-230-30/2, Oct, M108 Howitzer.

MWO 9-1240-293-30/2, Oct, M107 Gun, M110 Howitzer.

MWO 9-1240-293-40/1, C1, Oct, M107 Gun, M110 Howitzer.

MWO 9-2320-222-20/2, Oct, M88 Med Full-Tracked Recovery Veh.

MWO 9-2320-223-20/1, Oct, M116 Cargo Carrier.

SUPPLY CATALOGS

SC 3431-97-CL-E02, Sep, Welding Set, Arc, Inert Gas Shielded.

SC 4610-97-CL-E07, Sep, Water Purification Equip Set: 3,000 GPH, Base Mtd.

SC 4933-95-CL-A08, Sep, Tool Kit, Small Arms Repairman: Light Weight (4933-672-2612).

SC 5180-97-CL-E42, Aug, Air Assault Engr Squad Tool Set.

SC 5180-99-CL-A07, Sep, Engine, Power Train Repairman's Tool Kit, Army Aircraft.

SC 5420-97-CL-E11, Sep, Fixed Bridge, Highway, 60; Semipermanent.

SC 6545-8-CL-A02, Aug, Med Equip Set, Amb Train, ZI, 27 Patient, No. 1 (6545-299-8605).

SC 6545-8-CL-A03, Aug, Med Equip Set, Amb Train, ZI, 30 Patient, No. 2 (6245-925-7880).

SC 6675-97-CL-E24, Sep, Surveying Set, Precise Leveling: For Spirit Leveling of Second-Order Accuracy.

SC 6675-97-CL-E26, Sep, Surveying Set, Triang Recon Spec.

MISCELLANEOUS

AR 750-5, Sep, Maint Operations.

DA Cir 310-46, Oct, Pinpoint Dist Fed and DA Sup Cat.

DA Cir 750-23, Oct, Special Oper Instructions for Multi-fuel Engines, 2½, 5-Ton Trucks.

DA Form 12-25, Aug, Requirements for Tech Pubs for Army Mob Sup, Const, Environmental, Elec Gen, Rail, Marine and Amphib Equip.

LO 3-1040-224-12, Aug, Compressor, Recip, Power Driven, Flame Thrower, 3½ CFM, AN-M4, Stewart-Warner 3260101-4.

LO 3-1040-244-12, Aug, Compressor, Recip, Power Driven, Flame Thrower, 3½ CFM, AN-M4, Stewart-Warner 3260101-6.

LO 5-3820-236-12, Jul, Earth Auger, Skid Mtd, GED, Texoma, Inc. Mdl 254-10.

LO 5-6115-424-12, Jun, Gen Set, DED, 60 KW, AC, Skid Mtd; (Allis-Chalmers Mdl 3500).

LO 9-1005-297-12, Sep, TAT-102A Armament Subsystem.

SB 740-1440-92-005, Oct, Nike-Herc, Nike-Herc Imp.

TB 10-7300-201-20, Oct, Removal of Hard-Water Scale from Kitchen Equip.

TB 750-1, Oct, Aviation Electronics Configuration Directory.

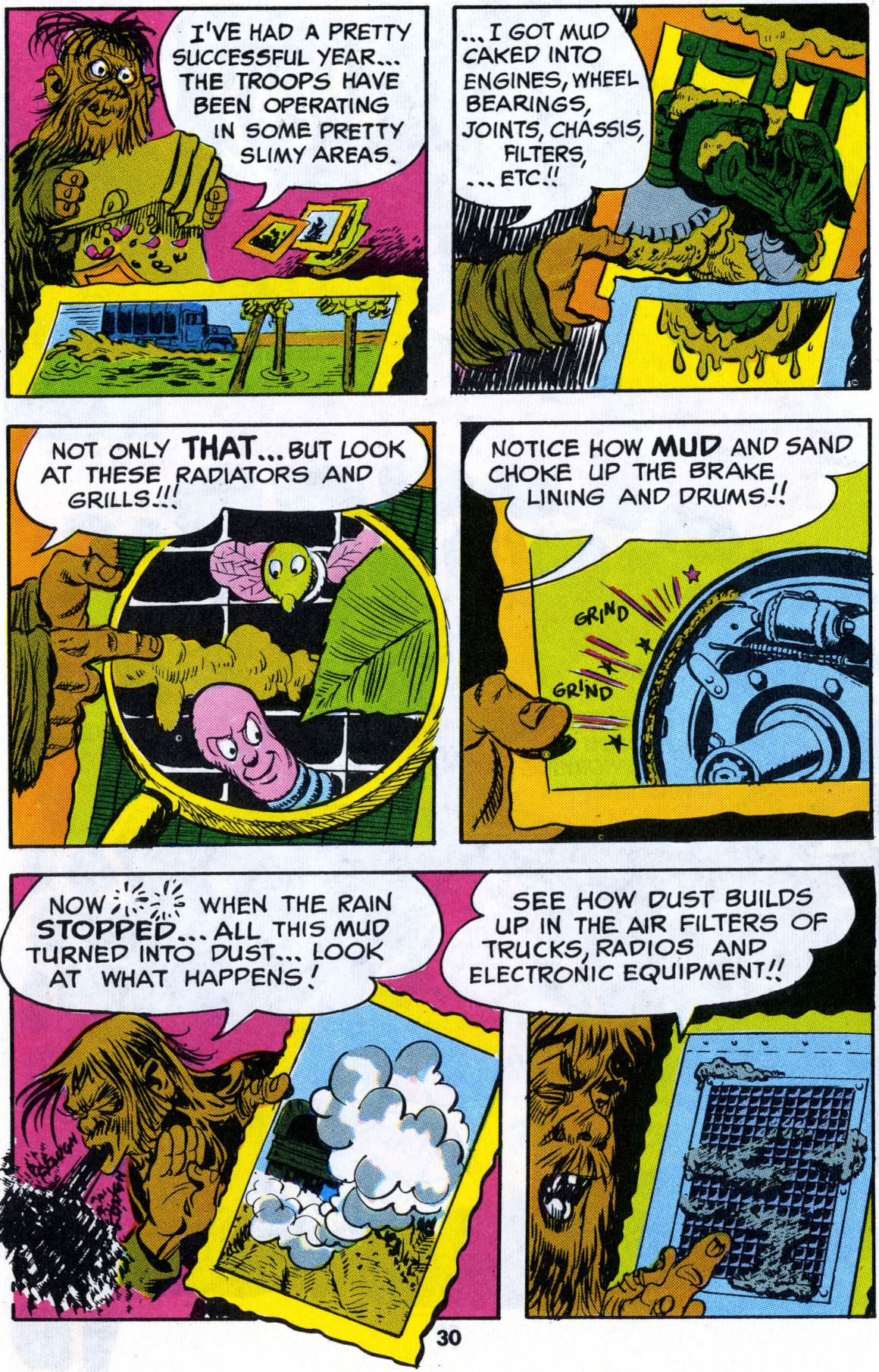
They Go Together

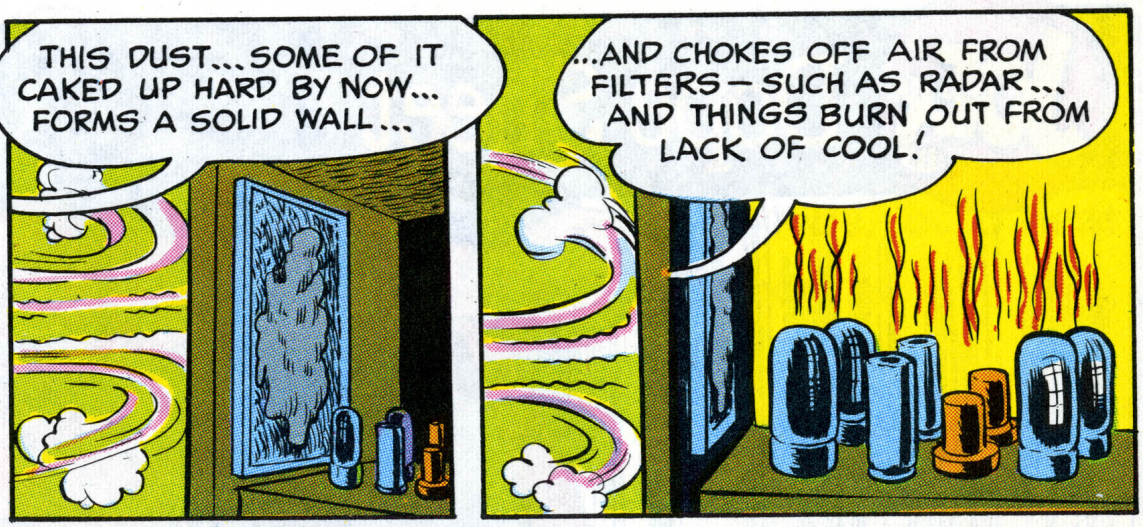
When you're using TB 11-6625-692-15/1 (Jan 67) to calibrate test and measuring equipment, use TB 11-6625-692-15/2 (Jun 66) along with it — they're a team.

Resupply of Pubs

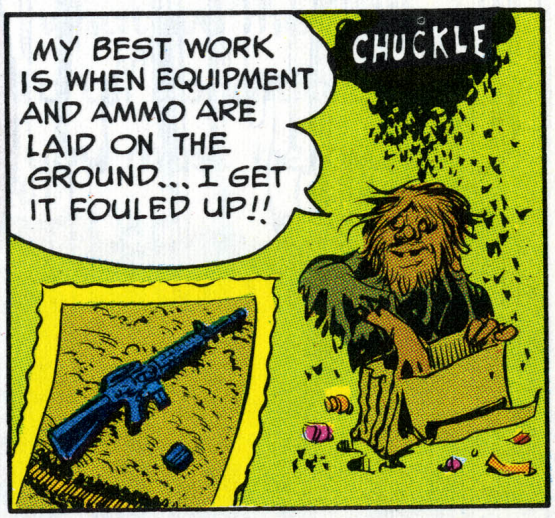
Better beg or borrow a copy of DA Circular 310-51 (Nov 67), if you don't have it. There are important changes on how and when to order a resupply of pubs from the AG Publication Centers.

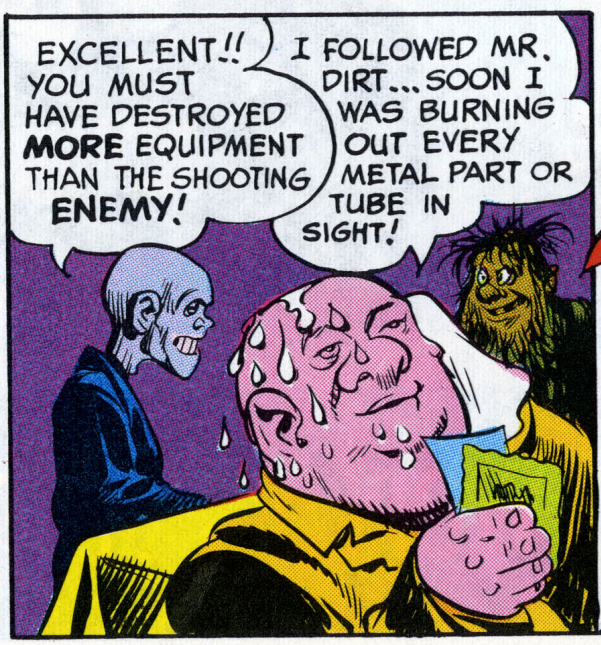
JOE'S DOPE
THE UNSCRUPULOUS — UNSUSPECTED
ENEMY
KNOK KNOK
PSST... LEMME IN!!
CLAK
CLAK
CLAK
CLOP CLAK
CLAK
KLOK
SORRY I'M LATE, GENTS. MONSOON KEPT ME WORKING OVERTIME!
OK...LET'S GET THE ANNUAL MEETING TO ORDER... MR. DIRT REPORTS FIRST!
DIRT
HEAT
LACK OF LUBE

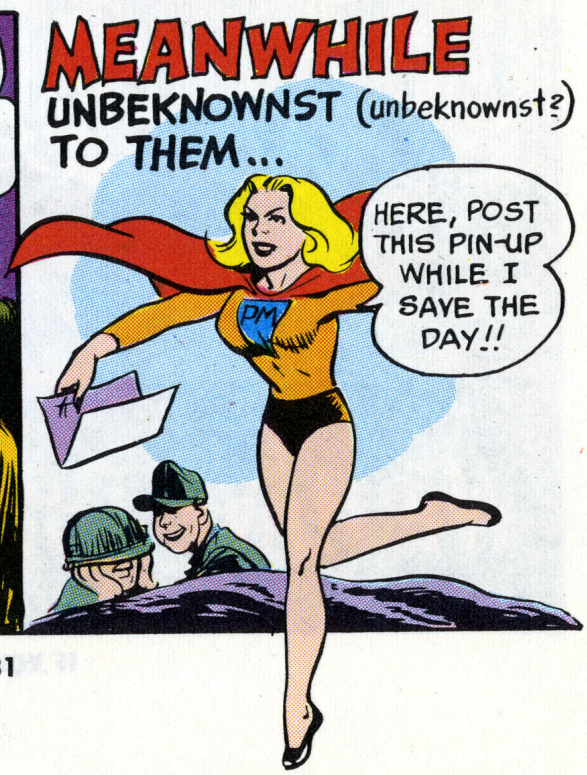

I'VE HAD A PRETTY SUCCESSFUL YEAR... THE TROOPS HAVE BEEN OPERATING IN SOME PRETTY SLIMY AREAS.
...I GOT MUD CAKED INTO ENGINES, WHEEL BEARINGS, JOINTS, CHASSIS, FILTERS, ...ETC.!!
NOT ONLY THAT... BUT LOOK AT THESE RADIATORS AND GRILLS!!!
NOTICE HOW MUD AND SAND CHOKE UP THE BRAKE LINING AND DRUMS!!
GRIND
GRIND
NOW WHEN THE RAIN STOPPED... ALL THIS MUD TURNED INTO DUST... LOOK AT WHAT HAPPENS!
SEE HOW DUST BUILDS UP IN THE AIR FILTERS OF TRUCKS, RADIOS AND ELECTRONIC EQUIPMENT!!

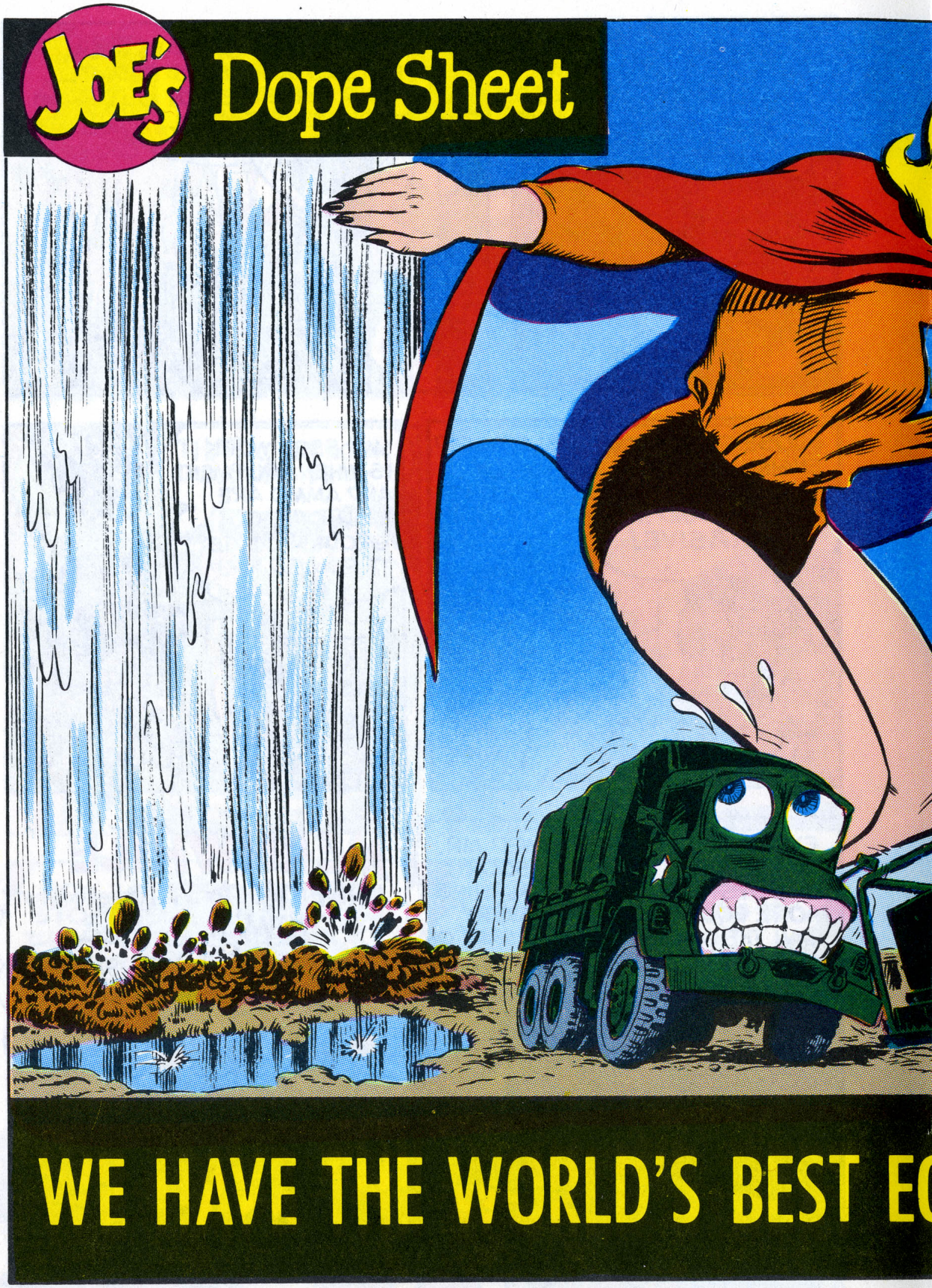

THIS DUST... SOME OF IT CAKED UP HARD BY NOW... FORMS A SOLID WALL...
...AND CHOKES OFF AIR FROM FILTERS — SUCH AS RADAR... AND THINGS BURN OUT FROM LACK OF COOL!

LOOSE DUST GOING THRU CLOGGED ENGINE AIR FILTER GRINDS UP FINE ENGINE PARTS BY GETTING INTO OIL AND MAKING IT AN ABRASIVE!


MY BEST WORK IS WHEN EQUIPMENT AND AMMO ARE LAID ON THE GROUND... I GET IT FOULED UP!!
CHUCKLE


EXCELLENT!! YOU MUST HAVE DESTROYED MORE EQUIPMENT THAN THE SHOOTING ENEMY!
I FOLLOWED MR. DIRT... SOON I WAS BURNING OUT EVERY METAL PART OR TUBE IN SIGHT!


MEANWHILE
UNBEKNOWNST (unbeknownst?) TO THEM...
HERE, POST THIS PIN-UP WHILE I SAVE THE DAY!!
DM

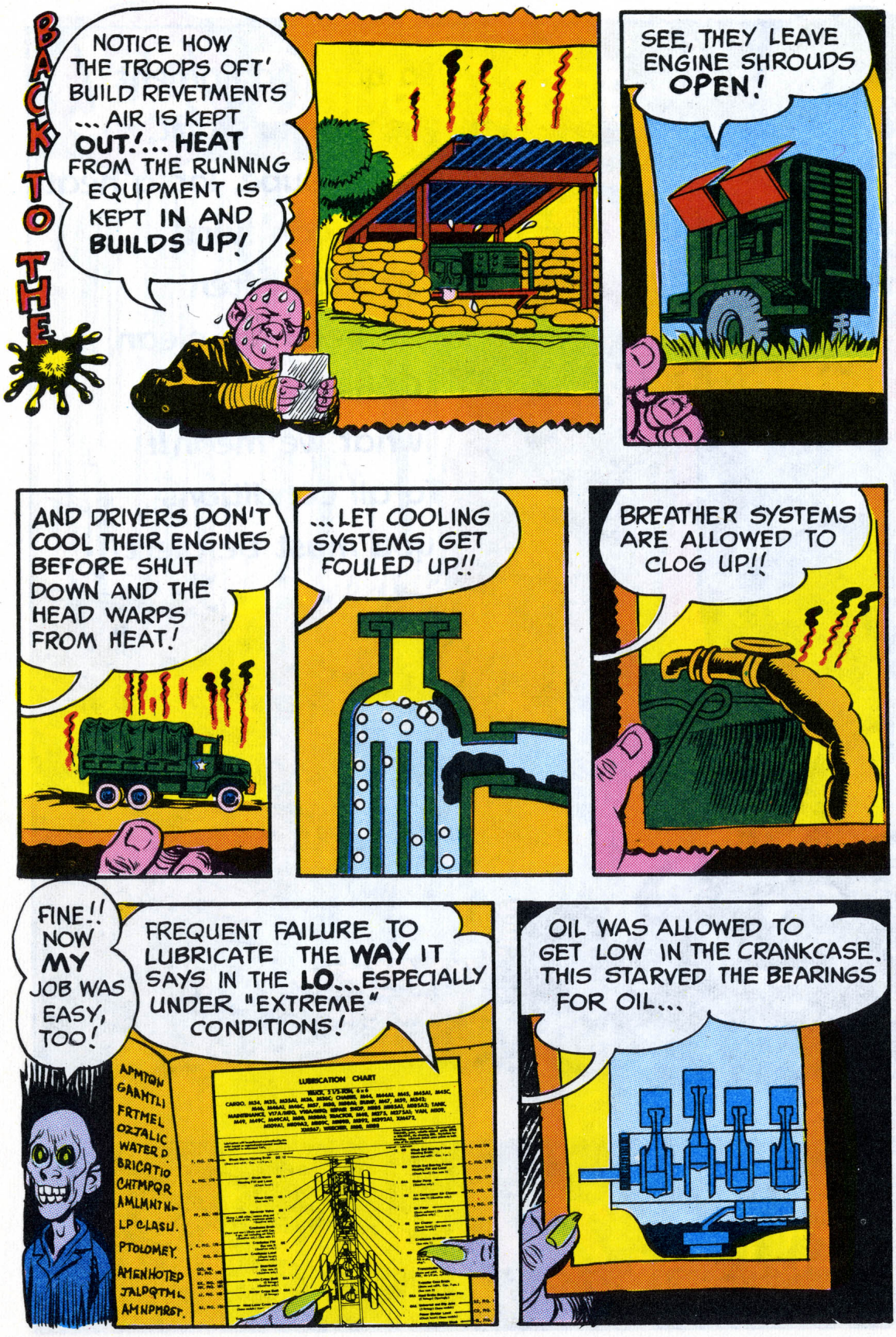


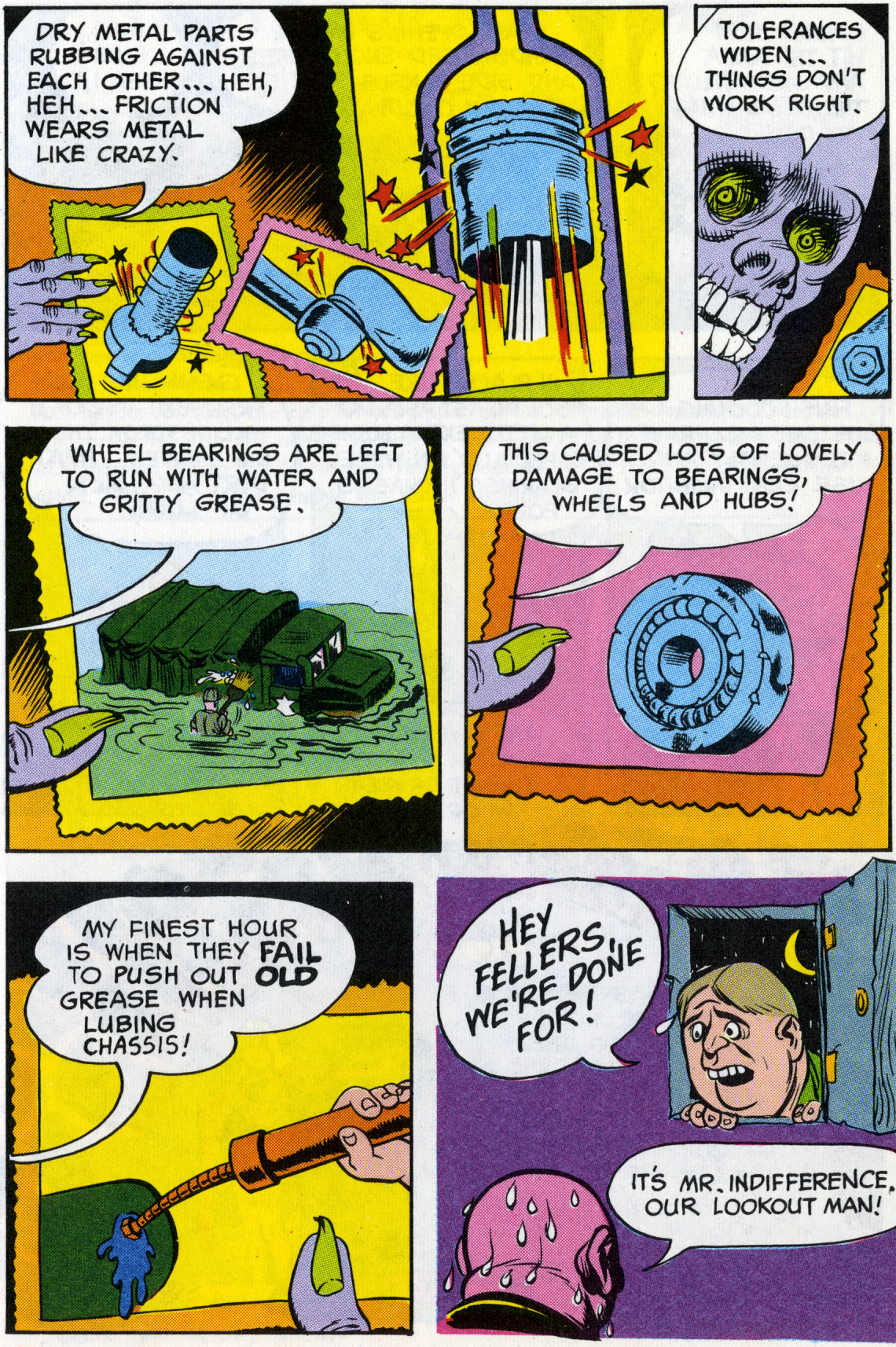
IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BU

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

QUIPMENT ...Take care of it

LLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.


BACK TO THE
NOTICE HOW THE TROOPS OFT' BUILD REVETMENTS ... AIR IS KEPT OUT.!... HEAT FROM THE RUNNING EQUIPMENT IS KEPT IN AND BUILDS UP!
SEE, THEY LEAVE ENGINE SHROUDS OPEN!
AND DRIVERS DON'T COOL THEIR ENGINES BEFORE SHUT DOWN AND THE HEAD WARPS FROM HEAT!
...LET COOLING SYSTEMS GET FOULED UP!!
BREATHER SYSTEMS ARE ALLOWED TO CLOG UP!!
FINE!! NOW MY JOB WAS EASY, TOO!
FREQUENT FAILURE TO LUBRICATE THE WAY IT SAYS IN THE LO...ESPECIALLY UNDER "EXTREME" CONDITIONS!
LUBRICATION CHART
OIL WAS ALLOWED TO GET LOW IN THE CRANKCASE. THIS STARVED THE BEARINGS FOR OIL...


DRY METAL PARTS RUBBING AGAINST EACH OTHER... HEH, HEH... FRICTION WEARS METAL LIKE CRAZY.
TOLERANCES WIDEN... THINGS DON'T WORK RIGHT.
WHEEL BEARINGS ARE LEFT TO RUN WITH WATER AND GRITTY GREASE.
THIS CAUSED LOTS OF LOVELY DAMAGE TO BEARINGS, WHEELS AND HUBS!
MY FINEST HOUR IS WHEN THEY FAIL TO PUSH OUT OLD GREASE WHEN LUBING CHASSIS!
HEY FELLERS, WE'RE DONE FOR!
IT'S MR. INDIFFERENCE... OUR LOOKOUT MAN!

CONNIE JUST HIT THE AREA AND SHE'S TELLING THE BOYS WHAT TO DO!!
!
LEAVE OPENING UNDER SANDBAGGED ENCLOSURES AND SIDE PANELS SHUT SO AIR CAN CIRCULATE.
WHY, YEAH! YEAH!
FLUSH COOLING SYSTEMS AND DRAIN FREQUENTLY AND USE RUST INHIBITOR.
IN PLACES LIKE SOUTHEAST ASIA DO A LITTLE EXTRA LUBING, ESPECIALLY ON WHEEL BEARINGS 'N' CHASSIS POINTS.
LO
AND GIVE MORE ATTENTION TO FILTERS ...CHANGE OR CLEAN 'EM OFTEN!
PLUS!! CLEAN LUBE AND FREQUENT USE OF IT WILL DESTROY THE BIG ENEMIES... HEAT, DIRT AND LACK OF LUBE.
AND AS THE SUN ROSE THAT MORNING... NOTHING REMAINED OF THE TERRIBLE TRIO!... DID THEY REALLY DISAPPEAR— OR WILL THEY SHOW UP IN ANOTHER AREA??— ONLY YOU KNOW THE ANSWER.
DIRT
HEAT
LACK OF LUBE

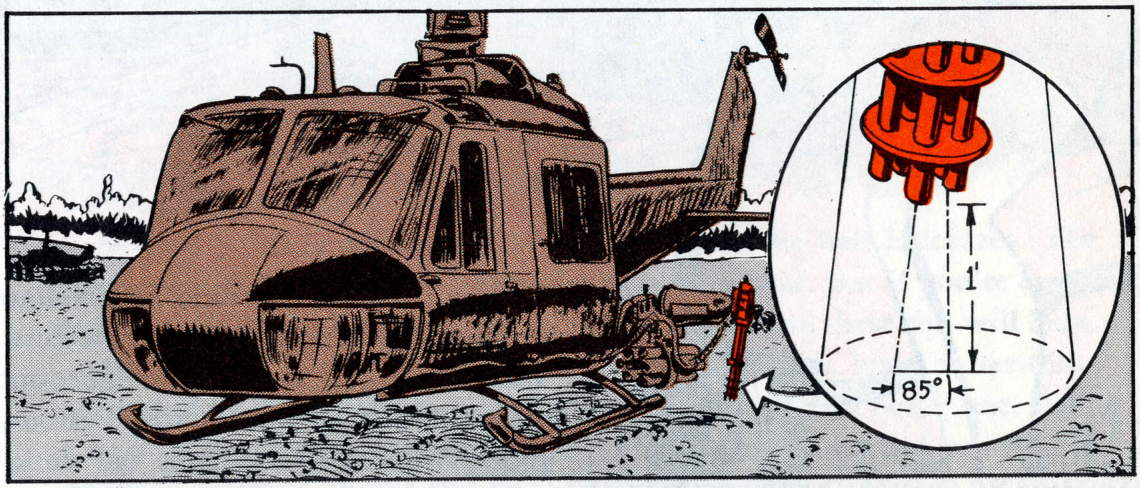
SAFETY SOP FOR MINNIE

Dear Editor,

We've established an SOP to help prevent injury or death from accidental firing of Minnie the Gun on the M21 subsystem. It won't stop accidental firing, but we haven't had even a close call since adopting it . . . even though we've had accidental firings during hectic scramble-type missions.

Here's how it goes:

Just before landing, the co-pilot arms the system. Then he depresses the guns full down vertically with the action switch on the sight. The trick is to keep the action switch pressed down while turning the system RAPIDLY from the ARM to the OFF position. This'll keep the guns in the down position.



After the ship lands, the guns can be safetied (safing sector removed, etc.), cleared, unloaded, loaded and PM-ed and the crew can exit and enter safely.

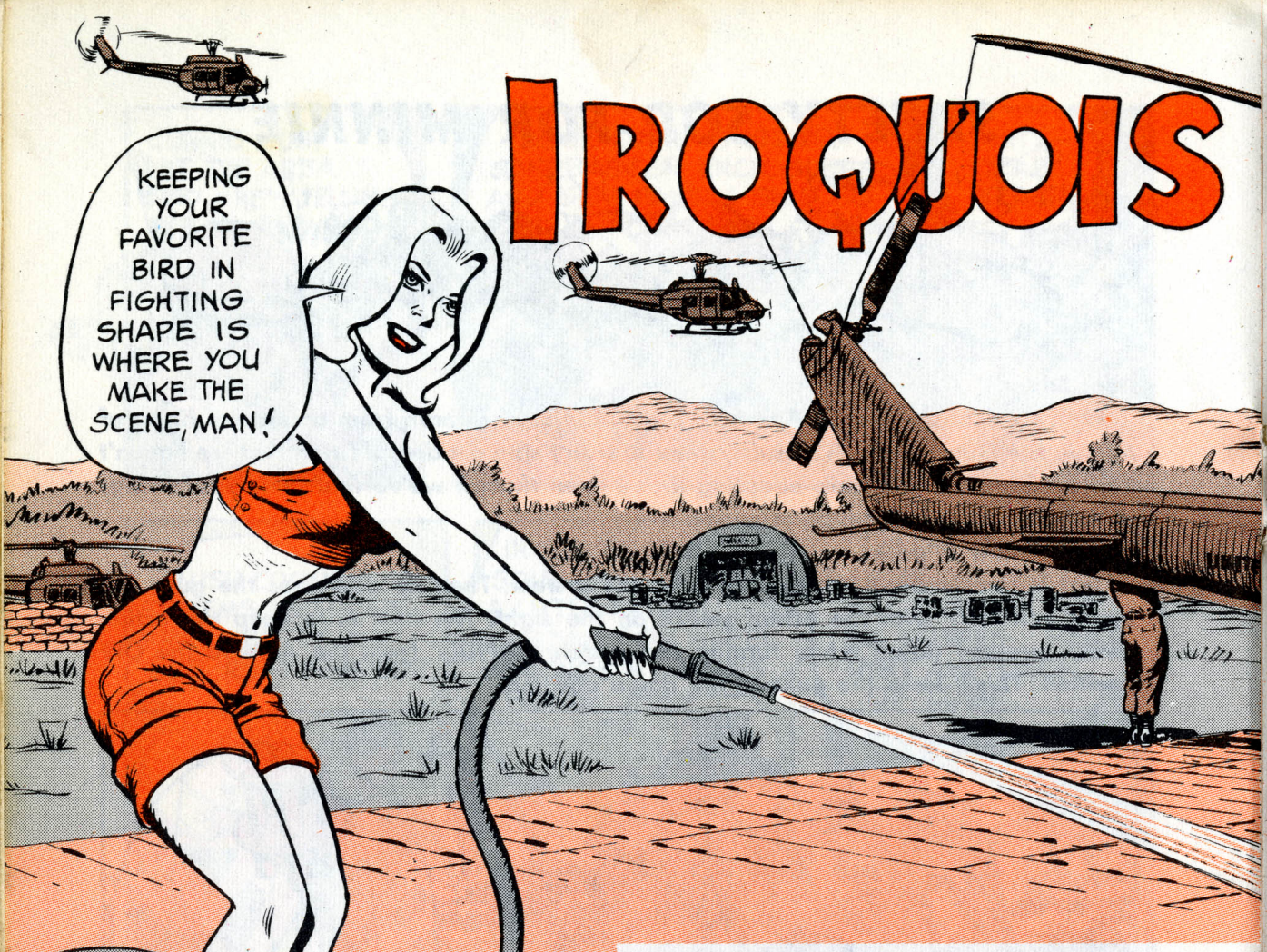
The only potential danger spot is the couple of square feet directly under the gun muzzles. If there is an accidental firing, the bullet will just dig holes in the ground.

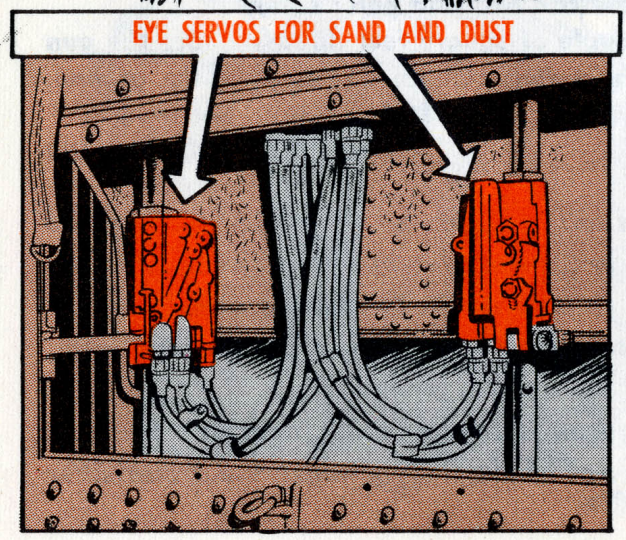
Lt Douglas S. Rehwoldt
A Trp, 1/9, 1st Air Cav Div

(Ed Note—Real life-saving idea . . . on soil-type ground. Wouldn't recommend it, though, for hard-surfaced or rocky areas—bullet might ricochet, y'know. This same procedure could be used by ground crews for M21's already on the ground. The crew chief would have to start the engine to depress the guns, that's all.

If your Huey has the armament hydraulic control valve operated from an overhead breaker instead of the OSA switch on the control panel, use this breaker to get the guns to stay down.)

IROQUOIS





Hueybirds are ingenious, marvelous machines of engineering know-how. Took a heap of brainpower to figure out where to put all those wires, buttons, tubes, switches — and make 'em work!

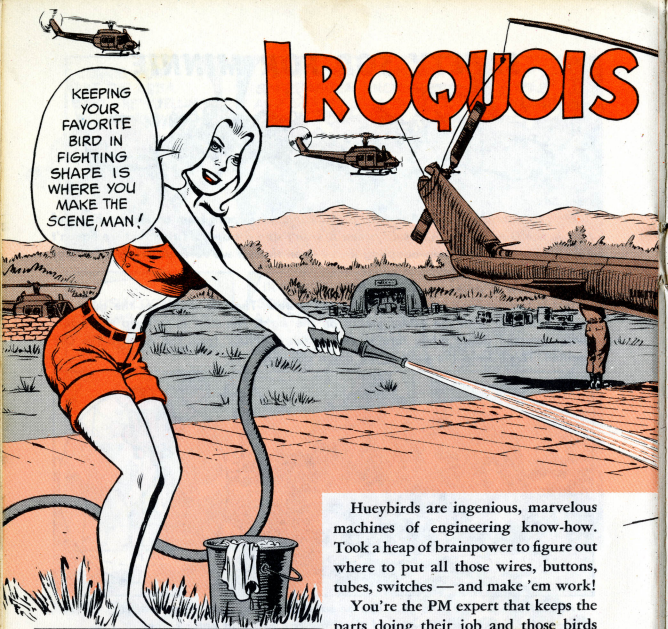
You're the PM expert that keeps the parts doing their job and those birds mission-ready.

HELL HOLE HOUSEKEEPING

Every item in the hell hole takes a fearsome beating from debris churned up by downwash from those whirling blades. Result — collective pitch and cyclic hydraulic servos get gummed up with sand and dust. The pilot fights his chopper instead of Charlie!

You can't keep the junk from getting into the hell hole, but regular PM will keep it from homesteading.

IROQUOIS QUICKIES



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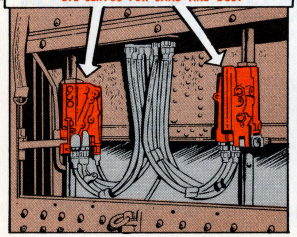
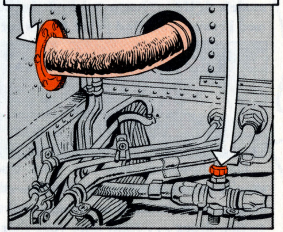
EYE SERVOS FOR SAND AND DUST



Normally, it's a no-sweat deal to hose down the hell hole area. The parts were made to take a lot of clean-up treatment. But if you're crewing a boonie-based bird you may have to make do and these tips will help.

An old hand-pump fire extinguisher does a neat job, but a water-filled portable fuel tanker and pump with 55-GPM flow does a better one. Drill a hole in the stopper that fits the fuel tanker's 1-in hose and you'll have pressure a-plenty. Water and P/D-680 solvent is the cleaner to use.

CHECKS FOR LEAKS OR SEEPAGE

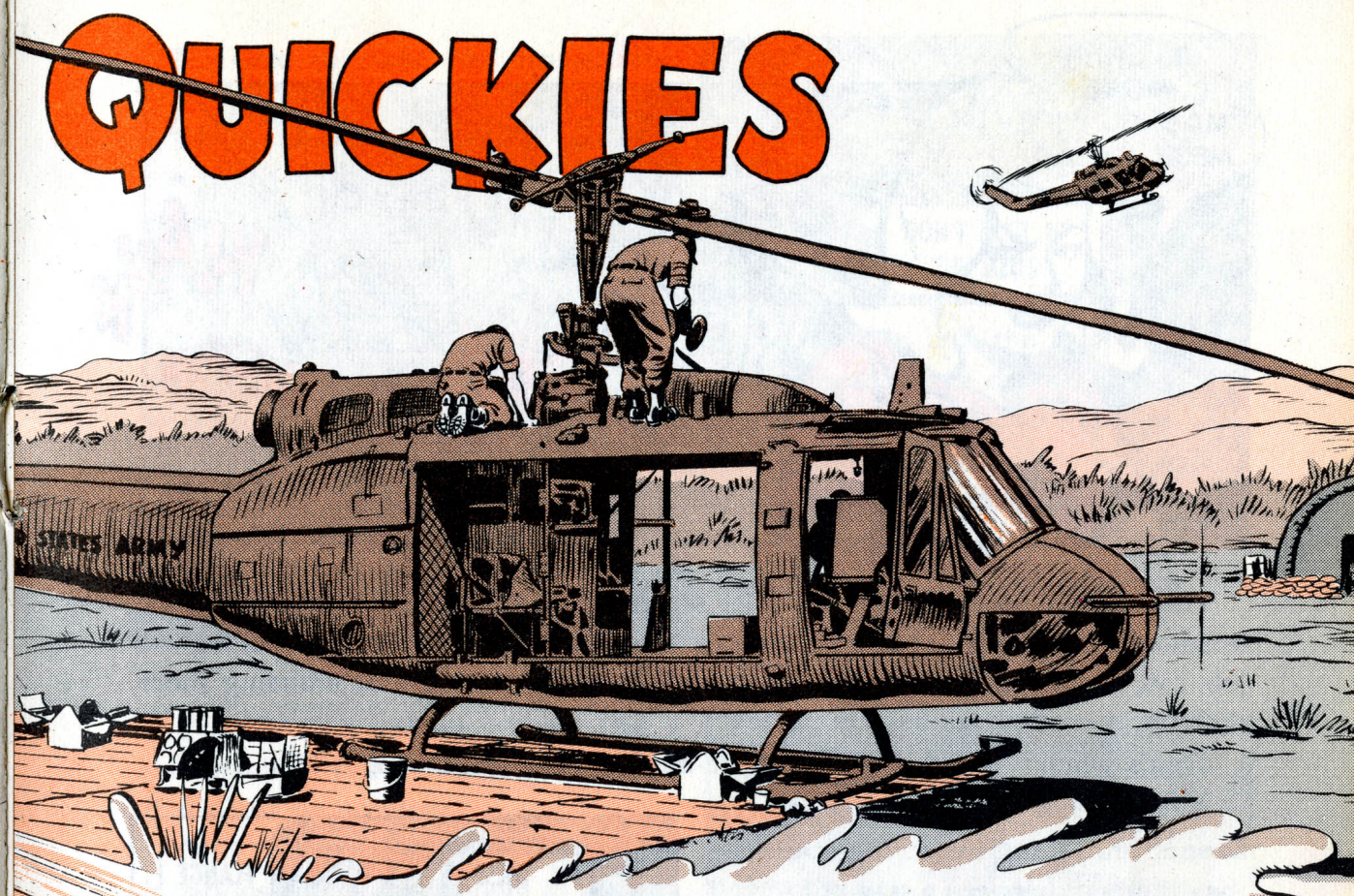


When you're checking the hell hole, be on the lookout for oily build-up on hydraulic lines, connections and fittings. This could be a clue to a loose connection, stripped threads, a break, nick or crack in the line.

Remember . . . every takeoff, landing, hover, or ground run-up throws a googol of sand and dust into the hell hole and the servos! It makes PM sense to keep 'em clean, man, c-l-e-a-n!

MORE

QUICKIES



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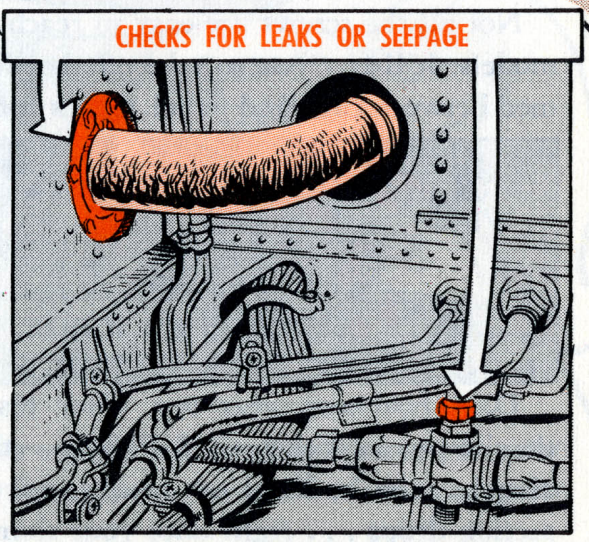

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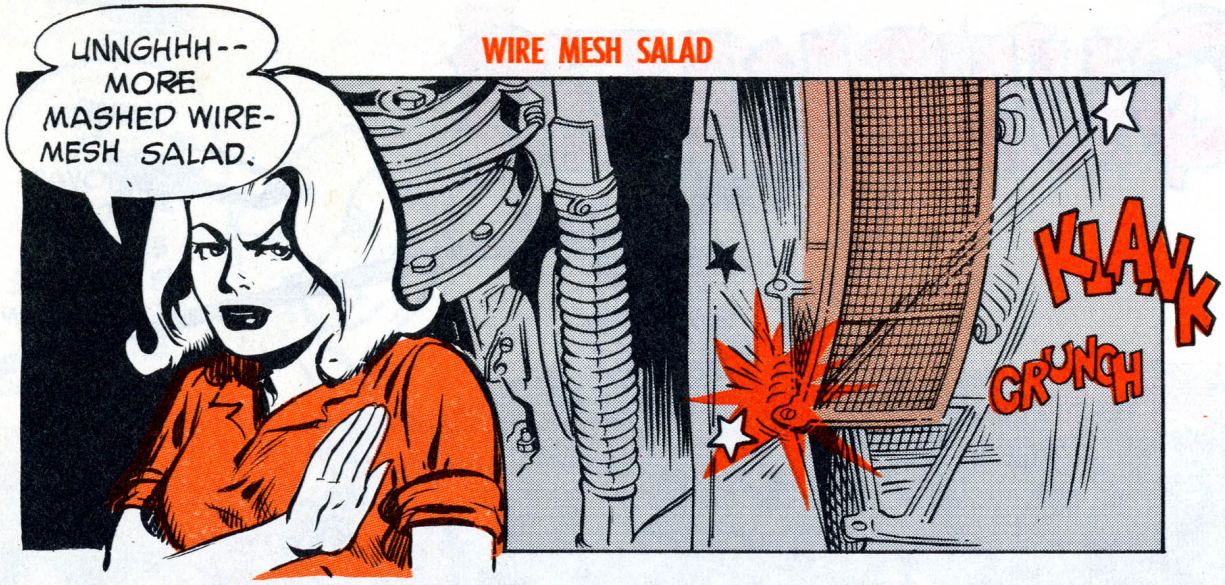
P.S. MORE

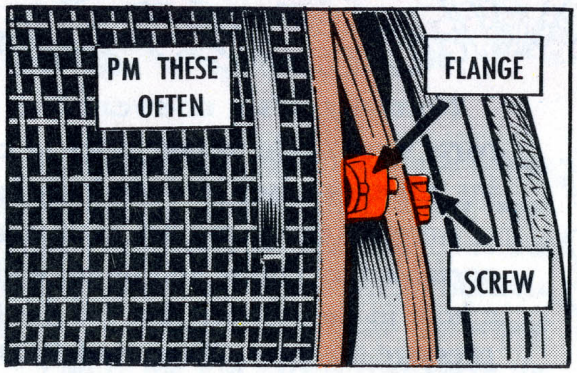
WIRE MESH SALAD



That 2-piece squirrel cage air-inlet screen covering your Huey engine intake bellmouth is designed to keep a snootful of gunk out of the turbine. Does a good job, too, as long as it stays put and doesn't drop down onto that whirling short shaft.

That's when you get a mashed wire-mesh salad — FOD — Z-A-P!

A little PM on screws, fasteners, flanges and the wire screen could be the difference between a stay-put screen and a kaput machine.



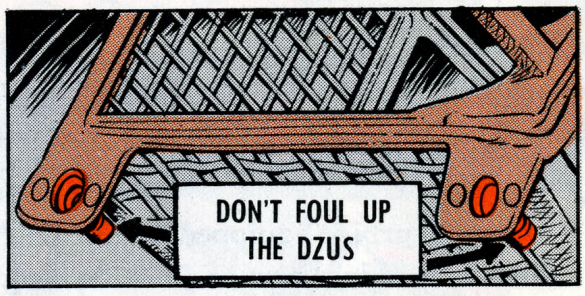
Look for stripped threads on the screws that hold the ¾ section of the ring assembly to the inlet ring. Eye the wire cage for broken wires. Any holes bigger than the coarse wire mesh and the section gets the ole heave-ho.

Not all the screws are easy to reach, 'specially those on the Bravo and Charlie models. It'll pay you to take off the side panel and clean out all the gook crammed between cage and panel. Check for loose screws — bikini tight is 'bout right!

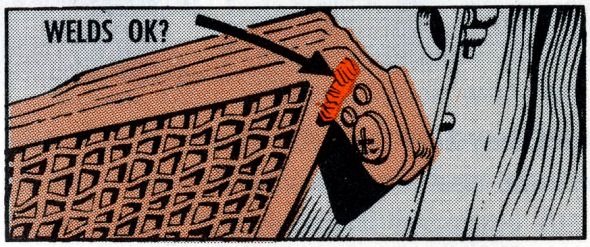
But this ¾ section won't be your chief troublemaker. Nosir-e-e-e! Most of your problems will be little ones — 8 Dzus fasteners. Four hold the quarter section to the inlet screen and 4 hold the 2 sections together.

Dzus fasteners wear out. They lose strength and tension, especially when they're put in cockeyed! A PM tip — those holes on the quarter section and inlet ring have to be lined up exactly, otherwise your Dzus loses and that quarter section drops . . . right onto your short shaft mixmaster!

No need to make like Bruiser the Brute when hitching the quarter section to its big brother. Just make sure that you feel each Dzus seat itself when the screw is turned. Holding the fastener finger firm while using the screwdriver will help you get it right, right.



Don't forget to eyeball the flanges on each section and the inlet ring for broken or cracked welds. Anything amiss here means more downtime.

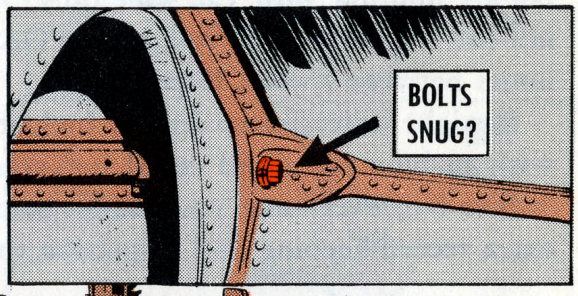


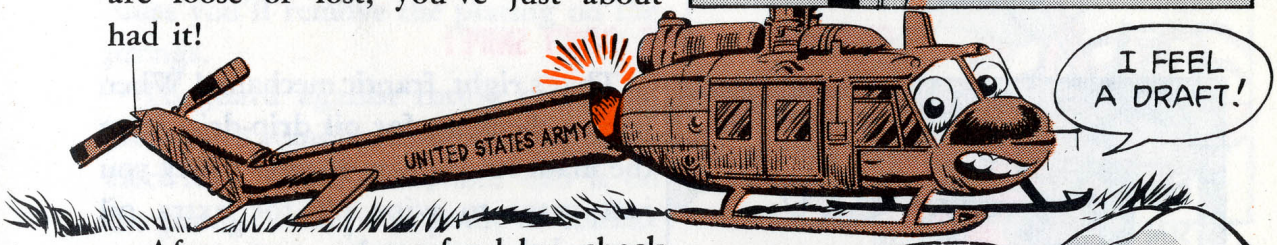
Checking the inlet screens each day will stop the screen drop—but good. If you're knuckle-busting where the grass tends to fly or is as high as an elephant's eye, you should check this screen before each takeoff.

TAIL BOOM TIPS

Your Huey's tail boom's not like a salamander's tail—which grows back if it's lost by accident.

Only 4 bolt, washer, and nut combinations hold the tail boom to the forward fuselage and if one or more bolts are loose or lost, you've just about had it!





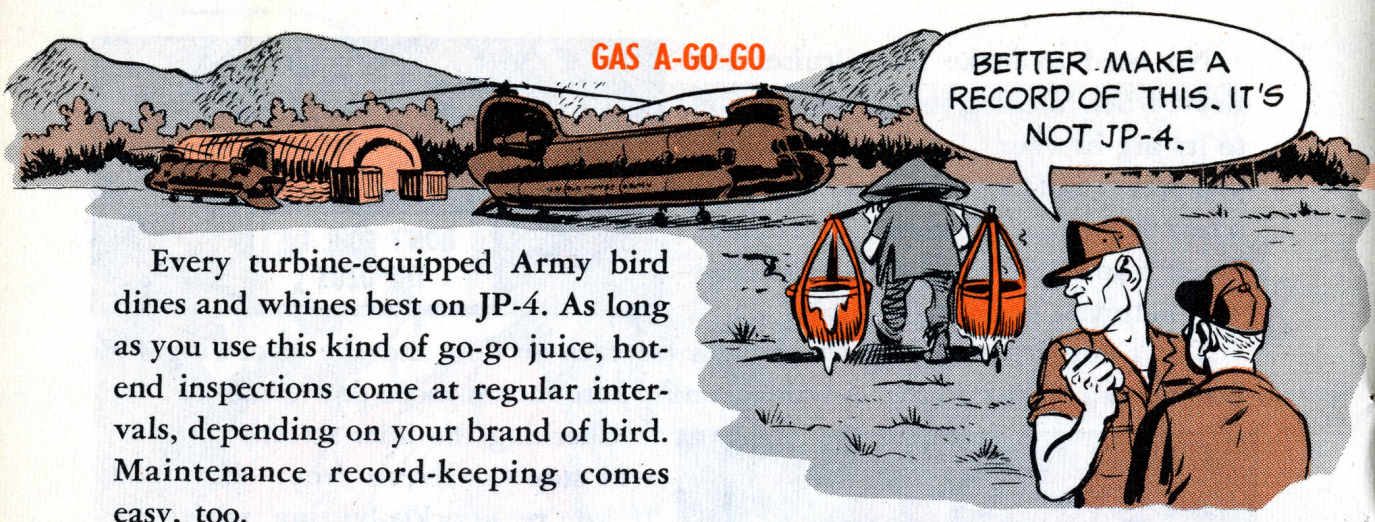
After you c-a-r-e-f-u-l-l-y check around the bolt holes for hairline cracks, distortion, corrosion, and damage, take a good look at each bolt.

First, be sure there's a washer under each bolt, and that the bolt threads point aft. Second, if you can't see at least one thread, better call support pronto. Same goes if you see more than 2 threads beyond the nut.

'Course you don't lay a torque wrench on those bolts, but when you know something's wrong, the rules of the game say pass the word to your support unit that the bolts need re-torquing.

PS MORE

GAS A-GO-GO



Every turbine-equipped Army bird dines and whines best on JP-4. As long as you use this kind of go-go juice, hot-end inspections come at regular intervals, depending on your brand of bird. Maintenance record-keeping comes easy, too.

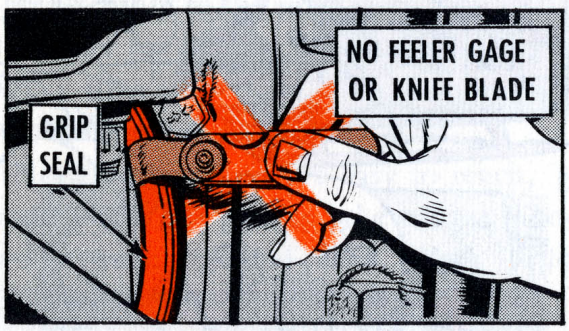
It's when you use an alternate or emergency fuel that an extra entry is made on DA Form 2408-13, Aircraft Maintenance and Inspection Record.

F'rinstance, your T53-L-9 or T53-L-9A equipped Bravo model gunship has to guzzle some unleaded gasoline. No sweat—she'll go for broke! But your bounty-hunting bird can run only 50 hours on this juice between 300-hour hot-end inspections. If you use AVGAS you can only feed her enough to run 10 hours between special inspections.

Straight unleaded or leaded fuel or leaded fuel mixed with JP-4 plays hob with turbine parts and could put your bird on the blink in a wink.

So-o-o-o, everytime you use an alternate or emergency fuel remember the extra record-keeping and inspection that're due.

GRIP SEALS . . . WIPE, DON'T SNIPE!



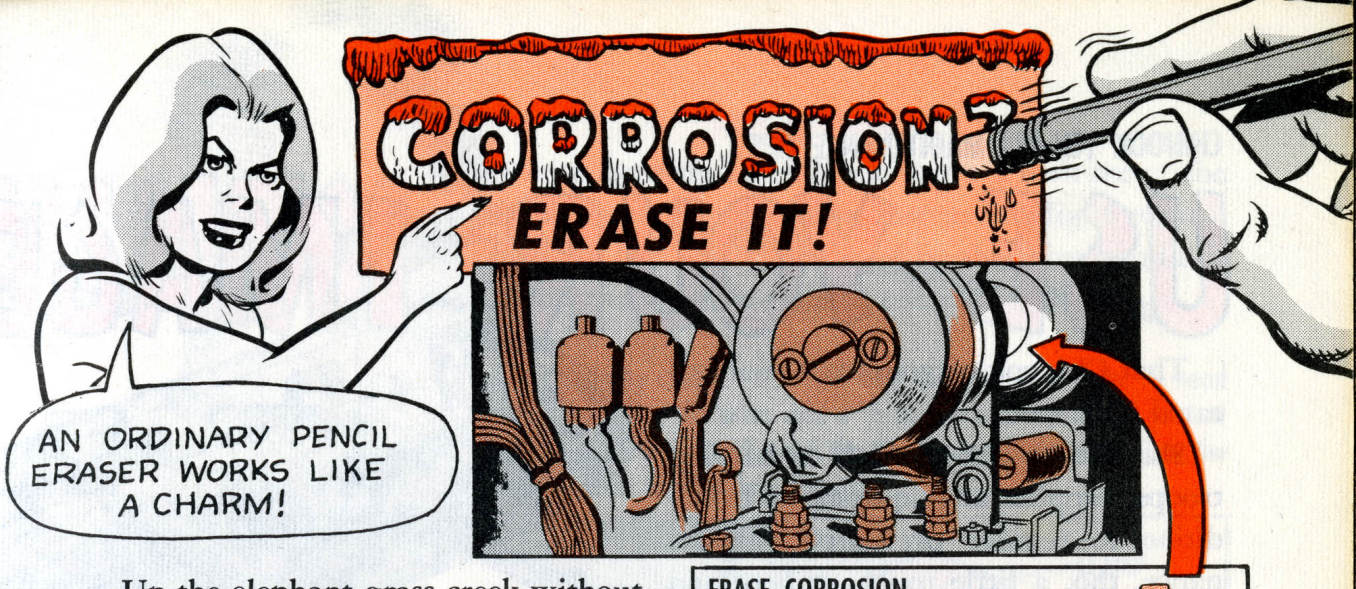
That's right, frantic mechanic! When you're checking for oil drip-drip from the main rotor grips on your Huey you just want to wipe off the extra oil around the grip seals.

Never use anything—like maybe a feeler gage or knife blade—to rout around the seal. Ruins 'em every time.

Gouges, cuts or scores in the seal will deadline your bird faster'n you can spot a sniper. Making like a surgeon could take that bird out of circulation in a coupla hours!

Nothing goes around that grip seal but wipe rags, man. 'Course you model Charlie mechanics skip this scene, right? Right!

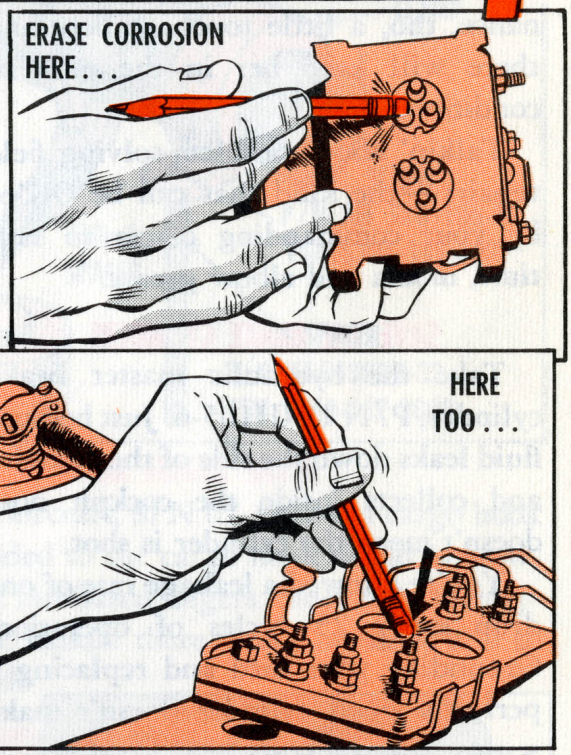
Yessir-e-e, you're taking care of a complex and expensive piece of hardware. Keeping that flapwing bird kitchen-clean and in tip-top condition is well nigh impossible. But pulling a little PM every chance you get will help keep that bird from coming unglued in the air.



Up the elephant grass creek without a paddle—that's where you could be if the two voltage regulators in your Huey (UH-1) go on the blink.

Corrosion really goes to work on the regulator base male terminals and the female spring tabs in the regulator mounting base.

To get rid of corrosion on the 3 regulator prongs use an ordinary pencil eraser . . . works like a charm. But don't use a crocus cloth or emery paper because you'll remove the plating on the prongs.



To guard against future corrosion, latch onto some insulating compound, electrical, MIL-S-8660, and dab it on the prongs (except at point of contact with the spring tabs). The compound is non-corrosive to metals and you'll find it listed in Fed Cat C5970-IL-A (1 Feb 67). FSN 5970-159-1598 will get you an 8-oz tube, FSN 5970-224-5277 a 2-oz tube . . . works wonders on cannon plugs, connectors and terminals.

Try the eraser trick on the spring tabs in the regulator mounting base. If they're badly corroded check with your support. They'll reverse the tabs for you by drilling out the attaching rivets and unsoldering the terminal screw. The tabs are reversed and put back with rivets, MS20470AD, and then the terminal screw is resoldered. 'Course the tabs are then bent to make contact with the regulator prongs.

Since a free flow of air helps head off corrosion, don't use the rubber backing on the regulator mounting base.

Hold it—return that borrowed pencil, please!

CHINOOK (CH-47) MAINTENANCE TIPS . . .

USE YOUR IMAGE

That Chinook of yours is a sophisticated lady.

She does a first-rate job of hauling troops, supplies and equipment. In addition to regular preventive maintenance, tho, a little touch-up here and there will keep her in the pink of condition.

Talkin' about problem-solving field repairs — the kind that can be OK'ed by your commanding officer to save time, moola and elbow grease.

SAVE THE BRAKE CYLINDERS

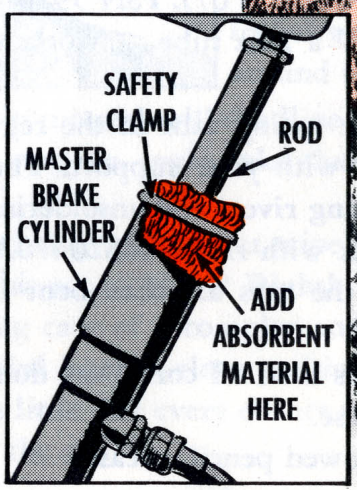
Take the hydraulic master brake cylinder, P/N 114H105-6. Just because fluid leaks down the side of the cylinder and collects inside the cockpit nose doesn't mean the cylinder is shot.

You're allowed a leakage rate of one drop every 25 cycles of operation. Grounding your bird and replacing a perfectly good cylinder doesn't make sense . . . and it costs $$$!!

So, how do you soak up the leakage? Easy!

Latch onto a piece of synthetic sponge or felt that will not fall apart when soaked in hydraulic fluid and wrap it around the brake cylinder like so. You can secure it with lock wire or a clamp.

You can replace the material, or clean it, from time to time as it becomes soaked with hydraulic fluid.



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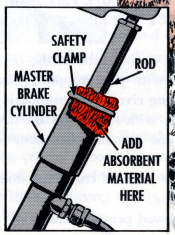
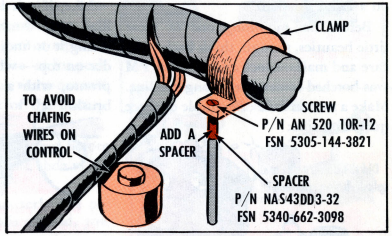


WIRE CHAFING FIX

If you're crewing an A Model have a look-see at the area behind the center section instrument light control on panel, P/N 114E2044. Could be the wire bundle is chafing on the variable resistor control.

If so, cut out any chafed wires and butt splice in new ones. To head off further damage to the wires add a ½-in spacer between the present clamp on the main wire bundle and the clamp support bracket. Then the wires won't contact the lighting rheostat.

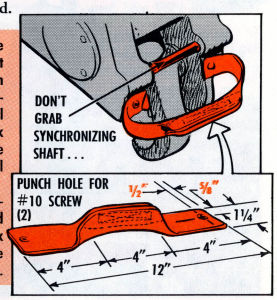


CARGO HOOK FINGER SAVER

Beginning with aircraft, S/N 67-18484, a cargo hook handle is being added to the cargo hook to aid in stowage and to prevent mutilated fingers. Since only factory-fresh birds get the handle there won't be an MWO to put it on your bird.

Without the handle there's a tendency to lift the hook by latching on to the synchronizer assembly shaft. Accidental operation of the hook with your mitts in there could put you on sick call — for real!!

So-o-o-o, make yourself a nylon strap and secure it to the hook housing with 2 screws like so . . . that'll do the trick.



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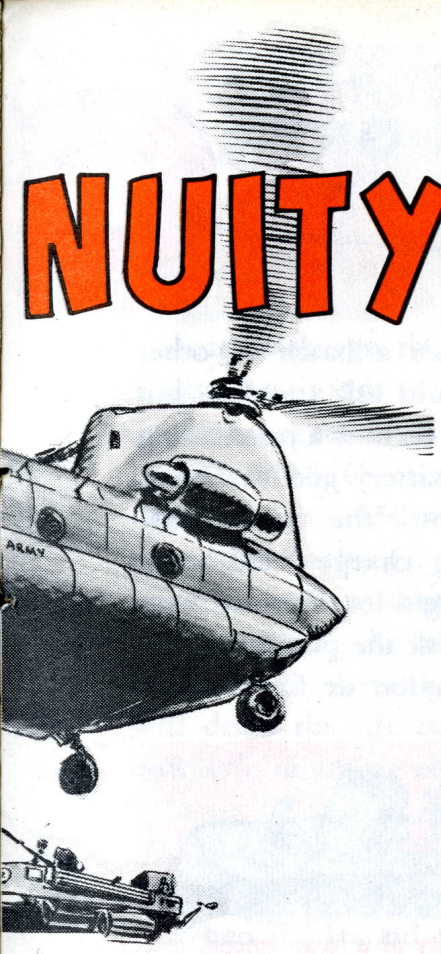

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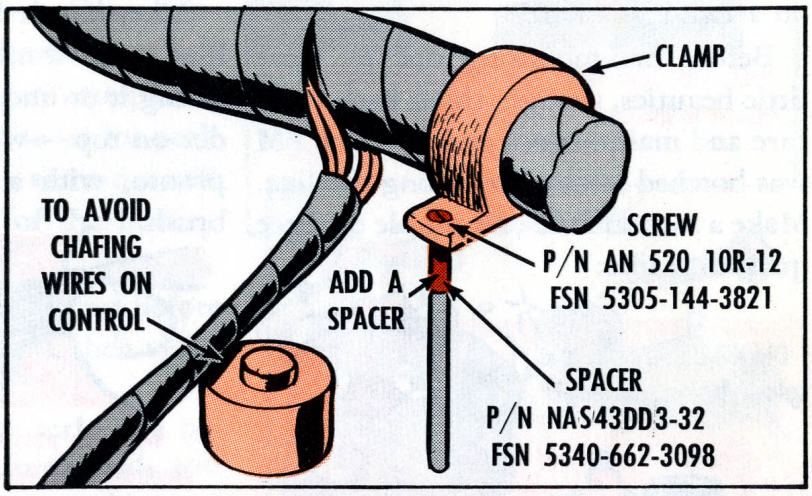

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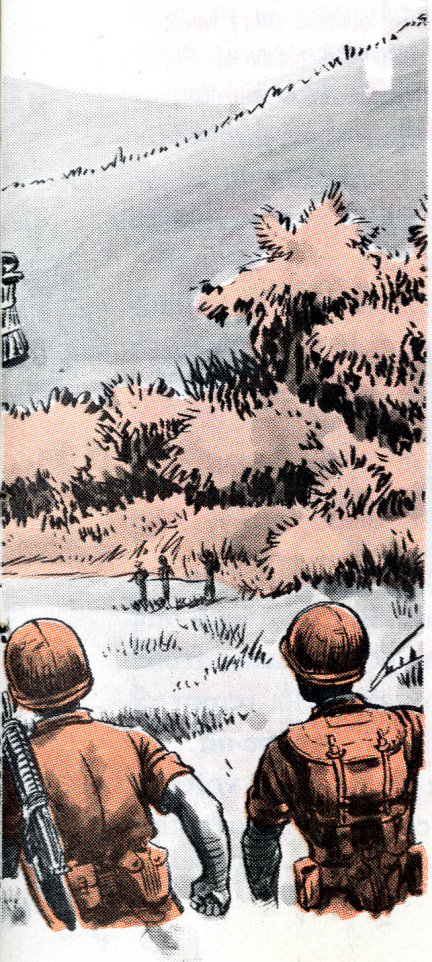

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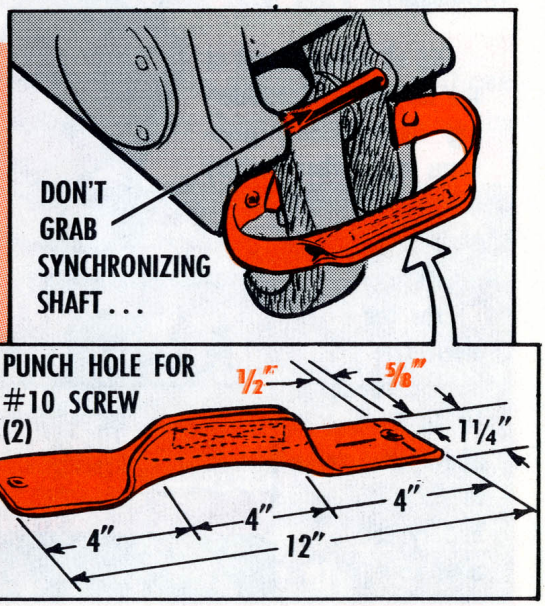
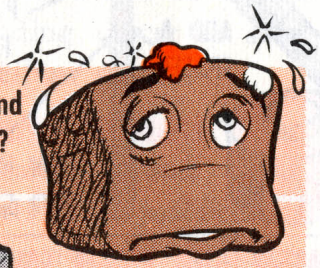


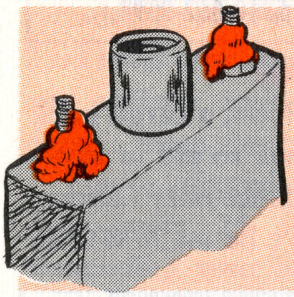
NICKEL-CADMIUMS GET A C

A nickel cadmium battery pooping out on you can be mighty aggravating, especially if you're uppity-up in the air or dealing with a one-shot missile or on a radar mission.

Before bad-mouthing one of these little beauties, though, think back to its care and maintenance and see if its PM was botched somewhere along the line. Make a mental note of a couple or three questions, like:

Did the battery gas and splash during charging?

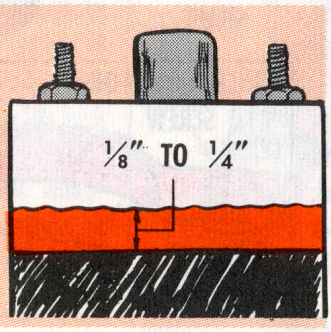




Was the salt deposit thick as cake icing, or was it given the brush-off treatment?

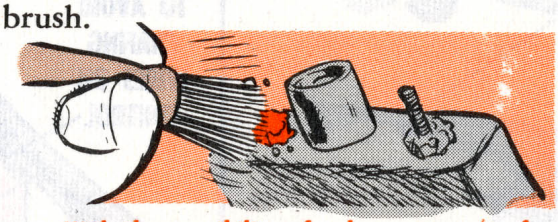
Did all cells test out at the set voltage (considering temperatures, pressures and other battery efficiency factors)?

Was the electrolyte level between 1/8 to 1/4 inch above the plates in each battery cell after charging?



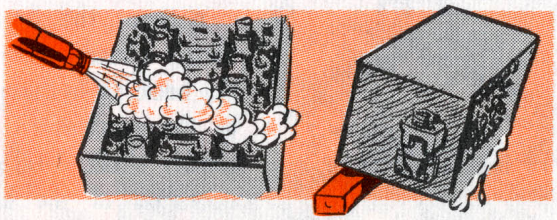
O'course, there's a batch of other questions you could ask yourself, but these'll shed light on how a juice-losing nickel-cadmium battery gets that way.

Like, if you know the battery bubbled over during charge—either by seeing it or finding a lot of white powder on top—whisk the powder away, pronto, with a nylon or fiber bristle brush.



With the possibility of a large amount of electrolyte (KOH) seeping around every nook and cranny of the cells and sides of the battery box, replace the filler caps and flush the tops of the cells with distilled or tap water.

Tip the battery on its side with the bottom raised to allow the water to drain off. Then, thoroughly dry the battery. Air pressure helps.



Should the electrolyte spill-over be too much for this simple clean-out method, you might get an assist from your support to get the cells removed for a real house-cleaning wipe-off.

When you don't get an equal voltage reading off each cell, don't push the panic button.

COMMUNICATIONS

NICKEL-CADMIUMS

GET A CHARGE OUTTA THIS

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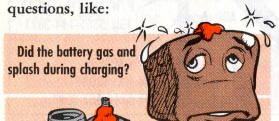

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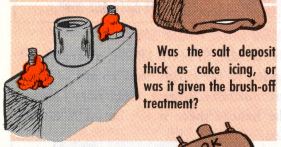

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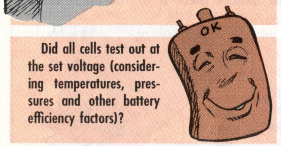

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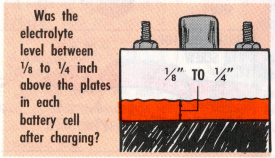

Was the electrolyte level between ⅛ to ¼ inch above the plates in each battery cell after charging?

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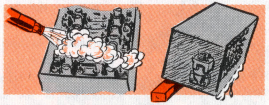

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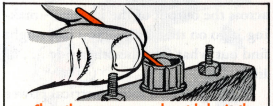
When you don't get an equal voltage reading off each cell, don't push the panic button.

Just discharge the battery and recharge it a time or two until the voltage readings are steady. If you've misplaced the MX-1678/U resistor assembly, you can hook up a 150-watt bulb to complete the discharge. Should one cell wind up weak or shot, get 'er replaced before shooting the juice to 'er for peak performance. A weak or worn-out cell will drain the life out of the battery quicker'n anything else.

Wait 3 hours after charging before adding any solution— and then make it only distilled water.

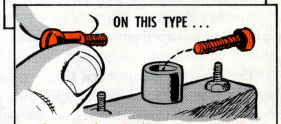
When the second quarterly PM period, or six months, rolls around, you might have to dump the electrolyte and replace it with a new solution of 31% potassium hydroxide and 69% distilled water by weight. . . . That is, if the specific gravity has dropped below 1.250.

If you flush and replace the KOH, discharge and charge the battery 2 to 4 times for peak power put-out.



Clean the gas escape and vent-holes in the filler caps or screws. Before installing or reinstalling filler caps, loosen the vent sleeve by inserting a toothpick or paper clip inside the sleeve and run it around the cap to free the gasket before putting the cover back on the battery cell.

While replacing the filler cap, use firm, even pressure to keep from cracking or breaking the cap's or cell's threads.



Always replace the shipping screw with a filler cap before you put the battery into action or it'll go right out again through explosion or burn-out.

To protect those terminal contacts from corrosion, coat 'em with a protective compound like FSN 8030-903-0931.

Some taboos on taking care of those nickel cadmium batteries to keep in mind are:

NEVER USE TAP OR DRINKING WATER. USE DISTILLED WATER ONLY.

NEVER LET 'EM BUDDY UP TO A LEAD-ACID TYPE BATTERY OR ANY TOOLS USED WITH THEM.

NEVER LET DUST, DIRT OR SALT DEPOSITS GANG UP ON THE BATTERY.

NEVER PULL PM UNTIL YOU READ THE TM FOR THE TYPE OF BATTERY YOU HAVE.

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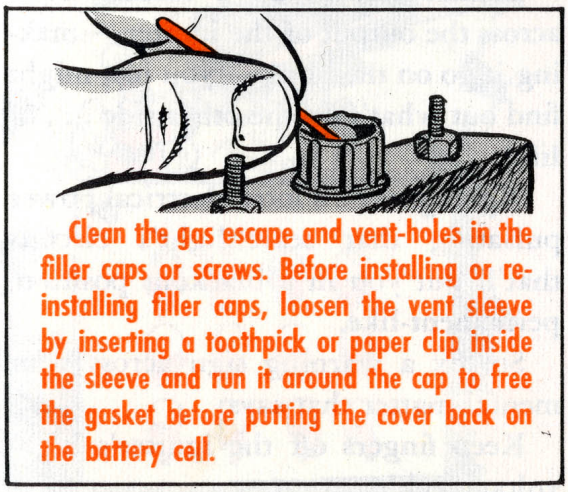

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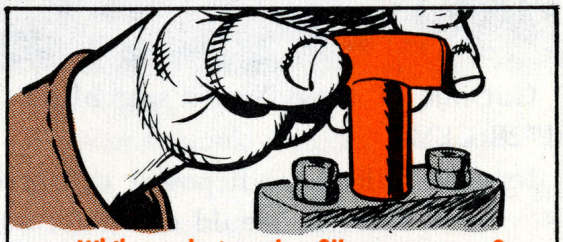

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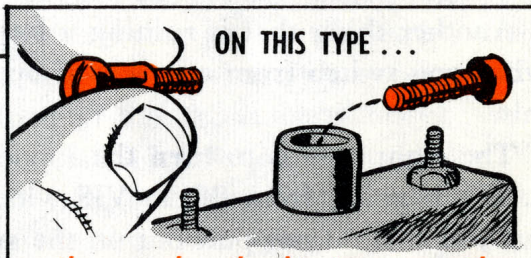

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NEVER LET 'EM BUDDY UP TO A LEAD-ACID TYPE BATTERY OR ANY TOOLS USED WITH THEM.

NEVER LET DUST, DIRT OR SALT DEPOSITS GANG UP ON THE BATTERY.

NEVER PULL PM UNTIL YOU READ THE TM FOR THE TYPE OF BATTERY YOU HAVE.

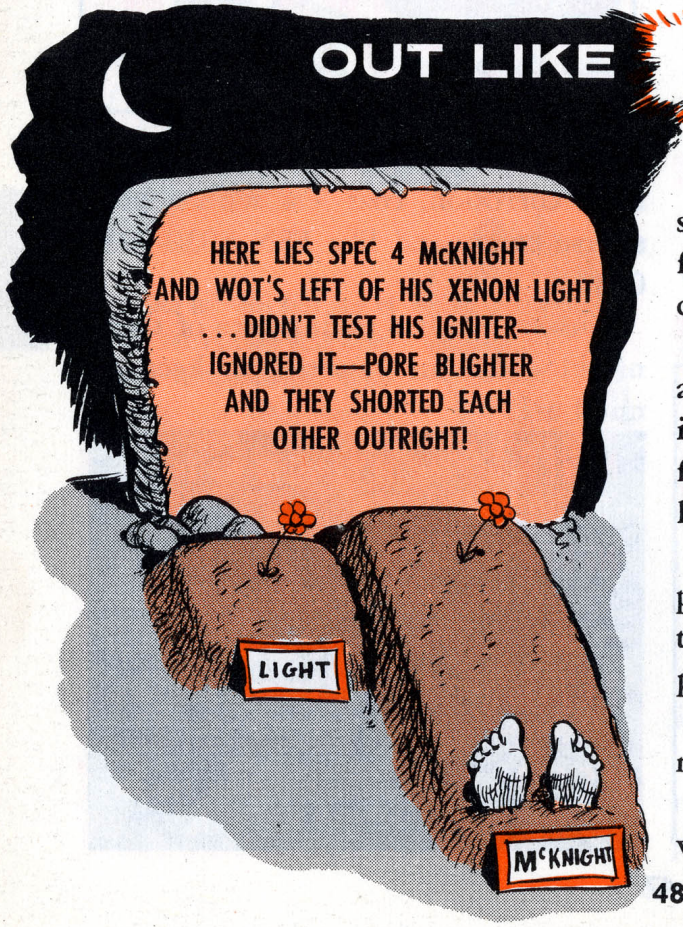
Got one of those Xenon searchlights mounted on your M60-series tank or M728 CEV?

Its 100-million candlepower can give you plenty of battlefield illumination — what a fräulein would call gefechtsfeldbeleuchtung — but not if it is kaput.

TM 11-6230-219-12 (Jul 67) was not kidding when it said you don't use the overdrive for more than 15 seconds in any 5-min period. In fact, it is better for your light if you can wait 10 minutes between "bursts" of overdrive.

Another thing that is ruining a lot of lights is pulling out on the overdrive when you switch from one way of operation to another. You never need to do this.

The right way is to **turn** the mode selector switch without pulling out on it. When going from BO to VIS wide position, the plunger must be depressed, but you still do not pull out on the switch. That'll keep your light healthy and ready to give you all its crazy 100,000,000 candles when you really need 'em.



Never . . . never . . . never!

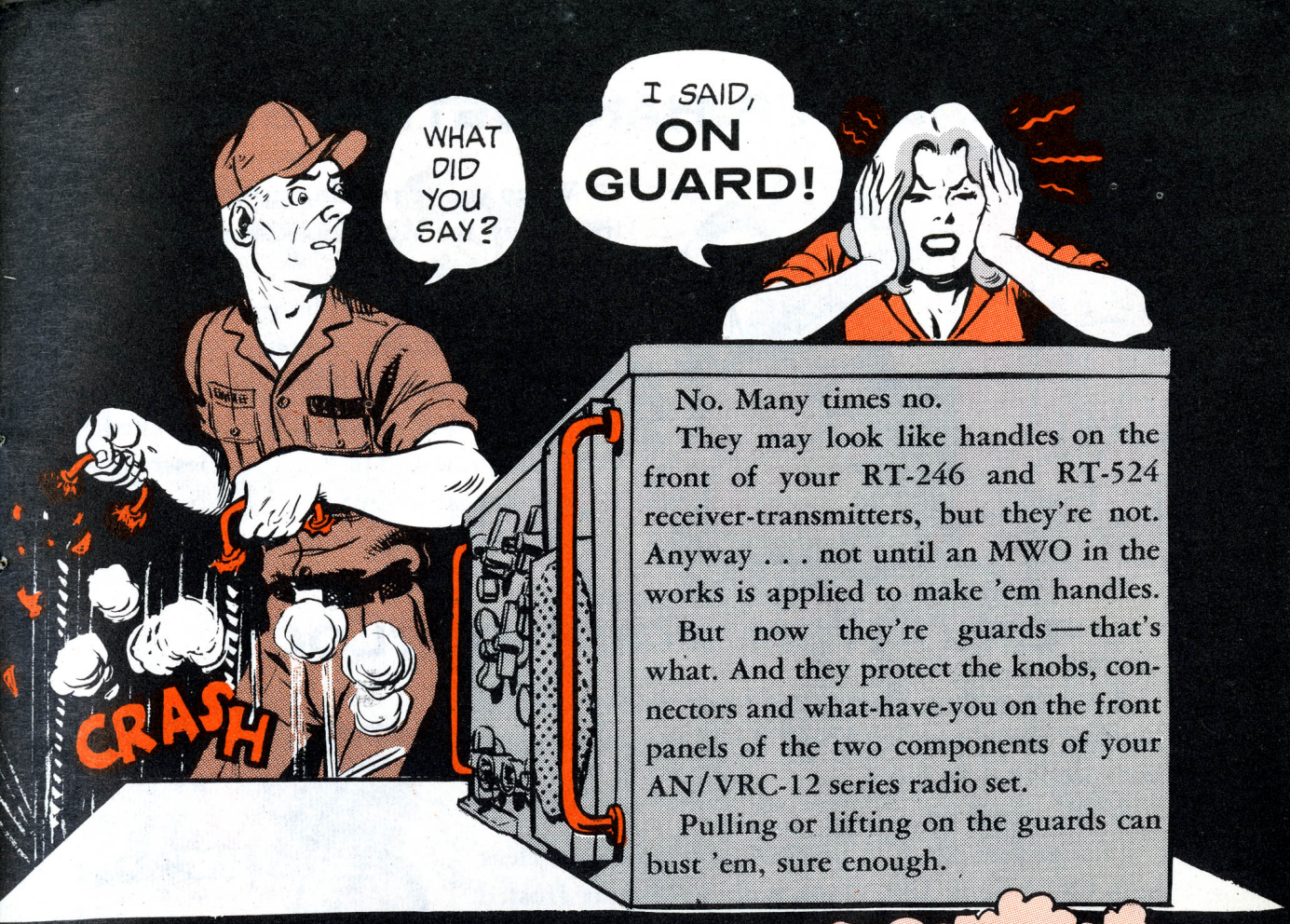
No . . . never test the 23-in Xenon searchlight's igniter by jumping a spark from the high-voltage cable to the chassis of the searchlight.

Besides setting up a carbon track across the output of the igniter — making it go on the blink — you just might find out what's on the other side . . . of life!

'Cause there's a lotta electrical power pulsating that searchlight's circuits that'll put you in a blackout position, permanent-like.

So, fix a warning sign across your mental matter that says:

Keep fingers off the igniter's high-voltage cable.



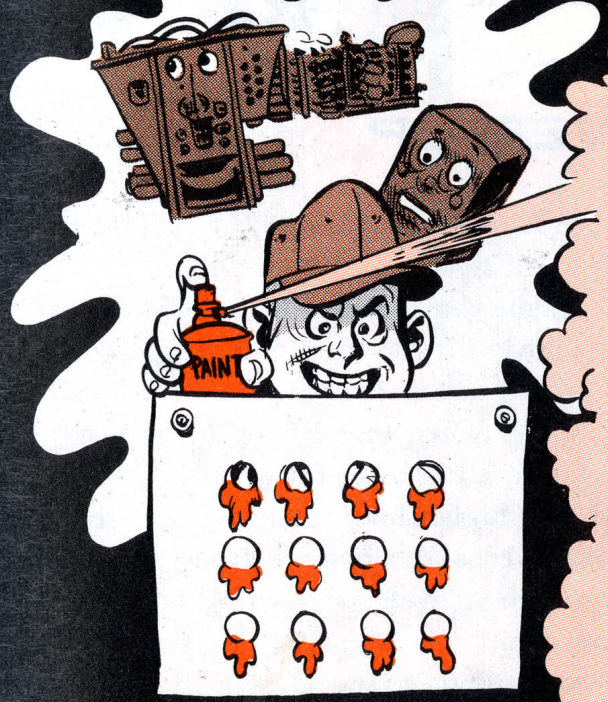
No. Many times no.

They may look like handles on the front of your RT-246 and RT-524 receiver-transmitters, but they're not. Anyway . . . not until an MWO in the works is applied to make 'em handles.

But now they're guards—that's what. And they protect the knobs, connectors and what-have-you on the front panels of the two components of your AN/VRC-12 series radio set.

Pulling or lifting on the guards can bust 'em, sure enough.

GIDDY-UP OL' PAINT



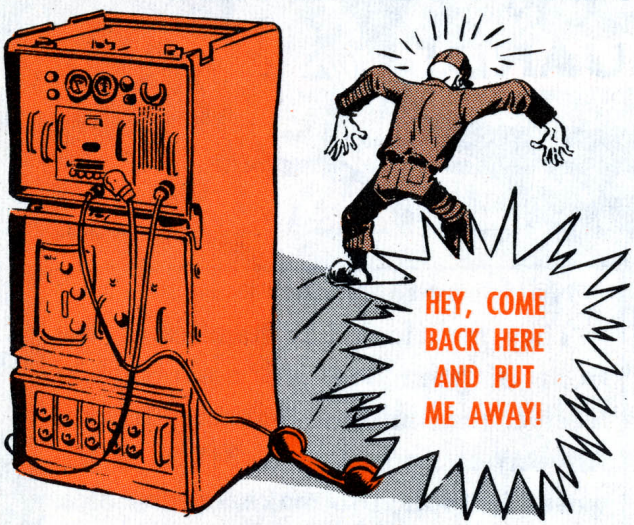
Spray paint—a real good deal, but not in the hands of a guy who's not supposed to use it around electronic equipment.

Take an AN/USM-50 oscilloscope as one of many possible f'rinstances.

You're supposed to use a brush and some gray paint to touch up the case for the scope. When you use spray paint, the stuff gets inside the vent holes and louvers in the case. If the paint has a metallic base, it can ruin things like the marker generator chassis components and also clog switches.

What about equipment you can remove from its case? Same thing. You're supposed to use a brush, not spray, when touching up.

HEAD OFF HANDSET HUSH



When you're packing up to pull out, put away the AN/TRC-24 radio set's handset.

Sure, that H-90/U hangs neat in its cradle on the R-417 receiver when your Track's standing still and steady. But, on the go, that handset can be rocked from its cradle and busted to uselessness.

Just store it in the CY-1342 accessory case and you'll keep it damage-free.

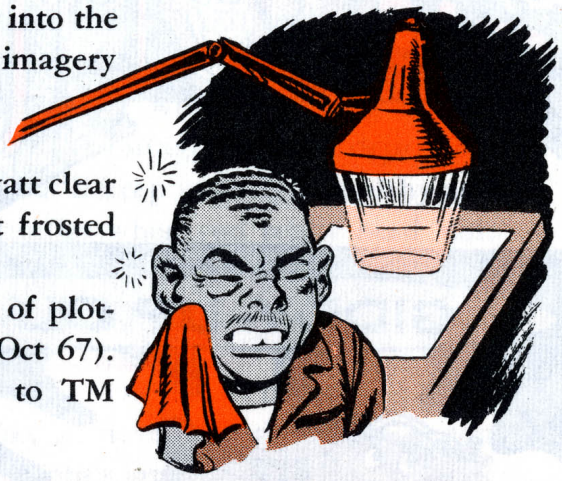
BRIGHTEN YOUR OUTLOOK

Are you getting glassy-eyed from staring into the plotting board of your AN/TSQ-43 tactical imagery interpretation facility?

Well, cheer up.

Change that AR-87A or -88A table's 60-watt clear bulb (FSN 6240-186-3254) with a 75-watt frosted one (FSN 6240-268-3061).

The frosted lamp, good for long periods of plotting, is listed on page 48 of GSA catalog (Oct 67). However, both of 'em are getting added to TM 11-6740-259-12.



IT'S A COVER-UP

Hold one, AN/TRC-77( ) radio set operator-type!

Maybe you're not usin' that CW-619 box cover all the time. But you're not supposed to toss it away, either.

'Cause when that BB-447( ) battery assembly's put aside for a spell or sent off for higher-level maintenance, the cover keeps the battery from gettin' damaged as well as warding off dust and dirt.

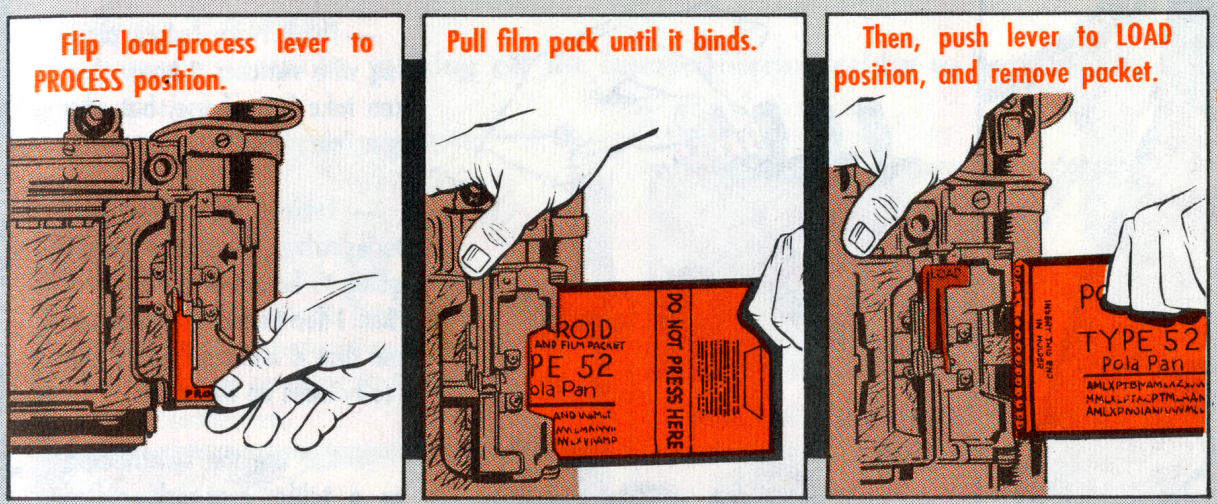
So, hang on to it.

PM FOR FILM PACK

Are you fixin' to flick a fast photo, using rapid processing film (Polaroid)?

Fine . . . but there's a point or two you should heed when using the Polaroid land film holder #500 with your PH-47 or KE-12-series camera. These pointers could head off damage to the holder.

After you've taken the picture and re-inserted the film packet to pull out for "magical" processing:



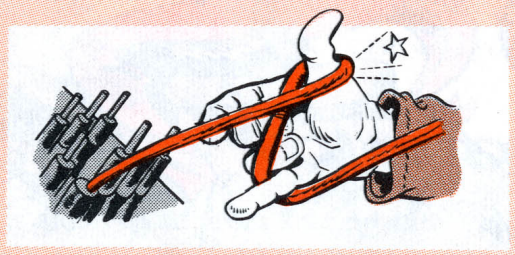
This will help keep the inserted metal clip on the film packet from nipping and chipping the processing rollers inside the film holder.

Another thing is that when the holder is not being used for awhile, or it's being put away until the next picture taking time . . . leave the load-process lever in the LOAD position.

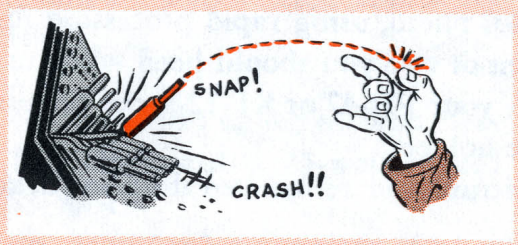
This'll take the tension off the spring and pressure off the rollers.

TAKE THE Pledge

As the operator of an SB-86/P or SB-22( )/PT telephone switchboard, I will:



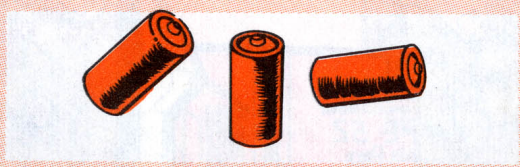
— Keep from twisting or knotting the call and answer cords. I know this can break the wiring.



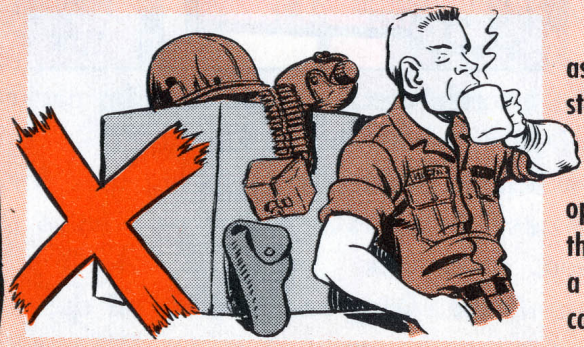
— Ease the plugs back into the switchboard. If I let 'em fly back, they might bust a signal lens or reel or pull the plug loose from the jack.

— Pull the cords by the plug and not by the cord to keep from breaking internal wiring.

— Think twice before playing with switches. I know they can take lots of use, but why give 'em abuse?



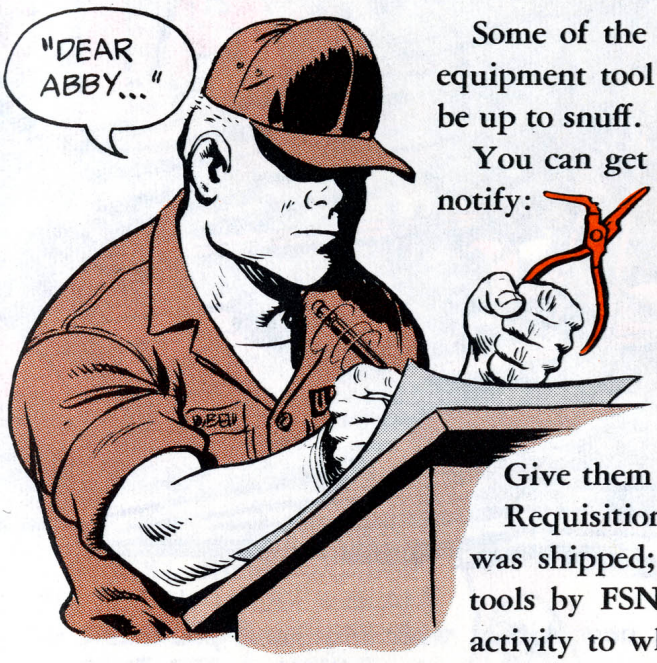
— Remove the BA-30 batteries when the switchboard's going to be out of action for a time. I don't need anyone to tell me that a leaking battery can really mess up the works.



— Not use the switchboard as a table, coat-rack, coffee stand or catchall.

— Make sure that non-operators keep their mitts off the switchboard. I've seen what a guy who's not in the know can do to a piece of equipment.

TK-105/G



Some of the tools in your TK 105/G electronic equipment tool kits, FSN 5180-610-8177, may not be up to snuff.

You can get the defective tools replaced if you'll notify:

General Services Administration
Federal Supply Service
Procurement Operations Division — FPNT
ATTN: Mr. John H. Harms
1734 New York Avenue N. W.
Washington, D. C. 20406

Give them the:

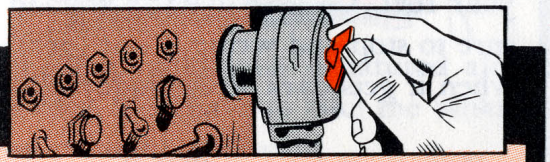
Requisition number under which the material was shipped; Contract number; List of defective tools by FSN and quantity received; Address of activity to which tools were shipped.

The contractor will replace all defective tools. No need to turn in the whole kit if just a few of the tools are defective. Just send info on the ones that won't do the job they're supposed to do.

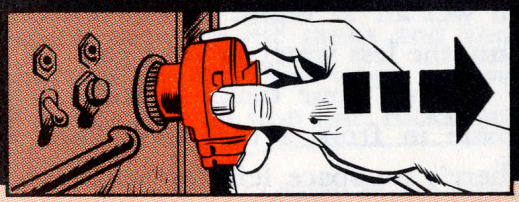
CABLE TALK

Easy does it with those transmission cables for the AN/TCC-7 or -50 telephone terminals.

There's no point in yanking off the interconnecting cables so hard that you goof up the pins.

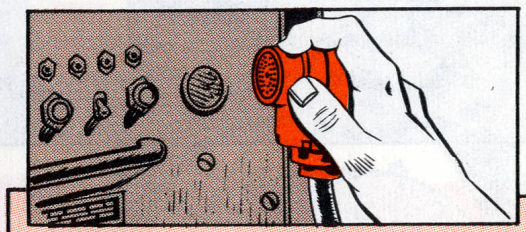


Take time to loosen those wings on the butterfly-type connector screw all the way out. This will break corrosion bind, and make for easy disconnection.



Then, reach for the connector, not the cable, and remove.

Pull straight out to prevent pin damage.



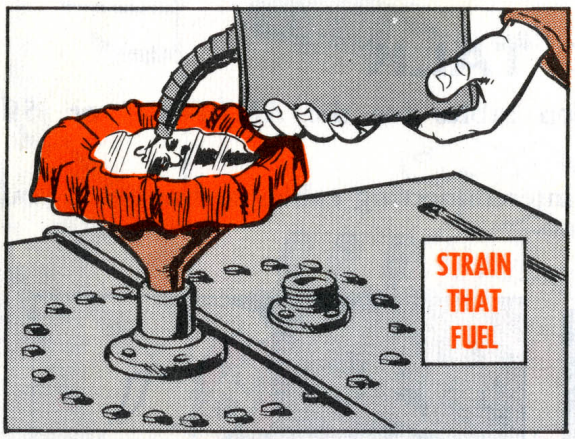
Never forcibly jam the connectors together. Eyeball the pins to make sure they're lined up.

Then bring them together carefully, and — to make a good electrical connection — tighten the butterfly nuts.

So-o-o-o, be real careful removing or connecting cables . . . It'll pay off.

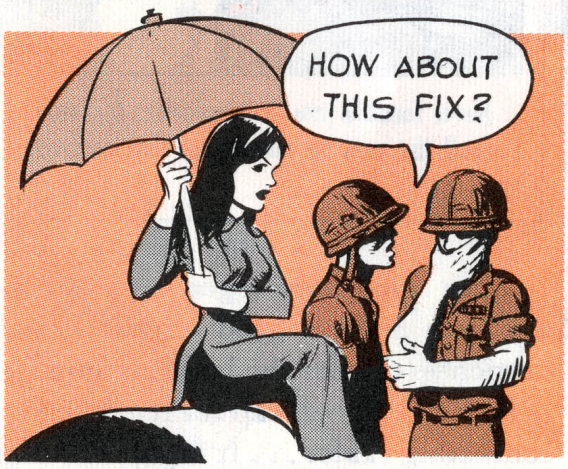
So you're the proud owner of a new AirCat whiz boat, and you'd like to keep her just as ready to pounce as she is right now?

Well, no matter whether you're an old salt or a desert rat who never even got his feet good and wet before, here're some things to watch for above all.



Water in gas conks aircraft-type engines like this Lycoming 0-360C2C pretty fast — those 180 horses just lay down in the pasture and won't move.

So funnel and strain every drop of your fuel. Use a chamois skin, and be sure to stop and wring it out (gently!) when it gets dark with muddy H_2O.



Try to con your POL people into rigging a cover to keep sun off your fuel sock. Those black drums soak up heat from sunshine, then cool and suck in wet air at night. So the less direct sun, the less water in your gas.

Fill up your tanks as soon as you come in from a run, too. That way there's no space left for water-loaded air. You oughta be able to get right at 30 gallons of 91/96 octane in each side when empty.

GO-GO, TIGER... YOUR AIRCAT HAS CLAWS

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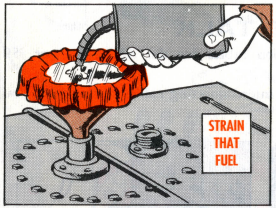

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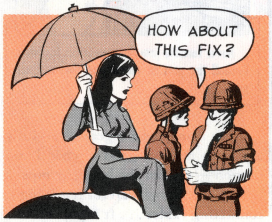

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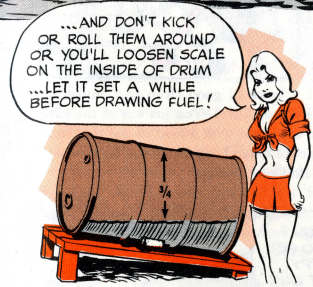


It's smart not to use over ¾ of the way down in 55-gal fuel drums. Let nobody roll 'em around and stir up bottom sediment for at least a coupla hours before you draw gas.

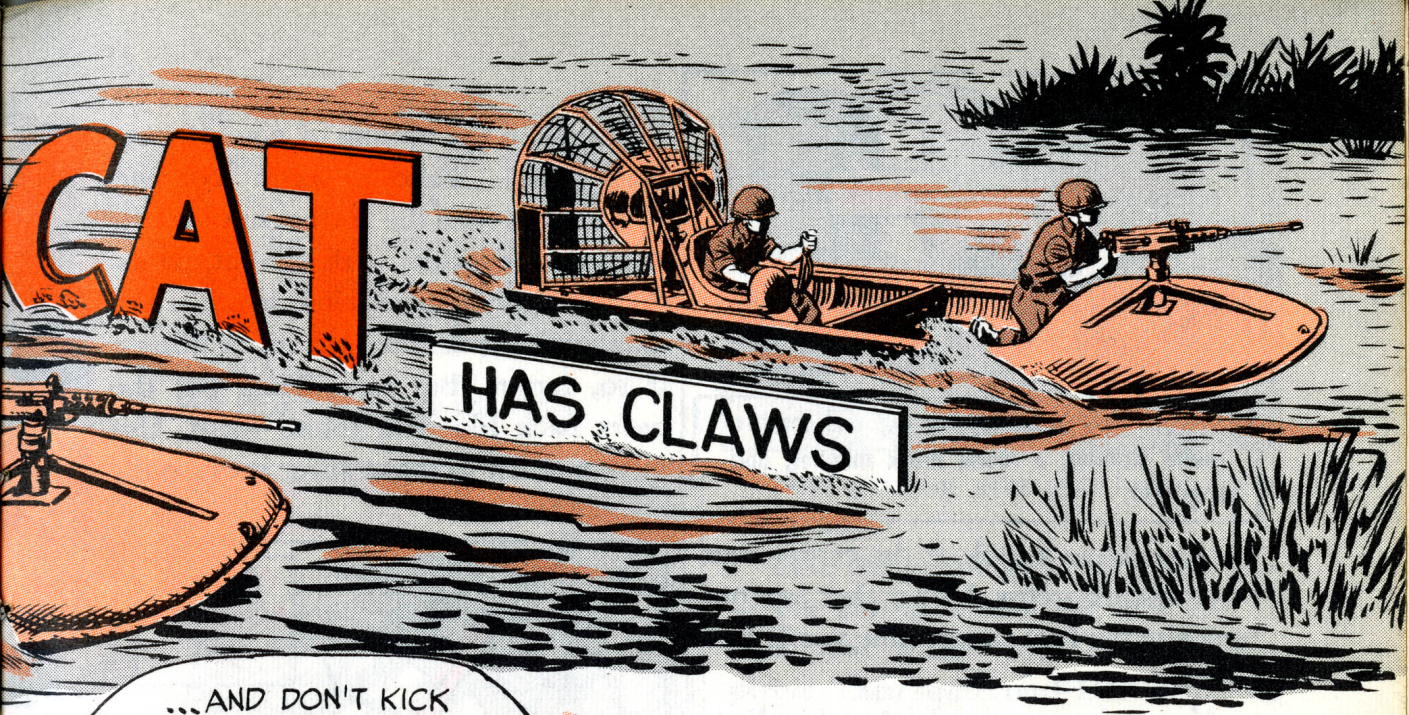
Besides that, you'd better make an every day run-out of whatever water has gotten in those self-sealing gas bags. Your bottom drain-out fitting does it easy — but use an old rag to swab out the boat.

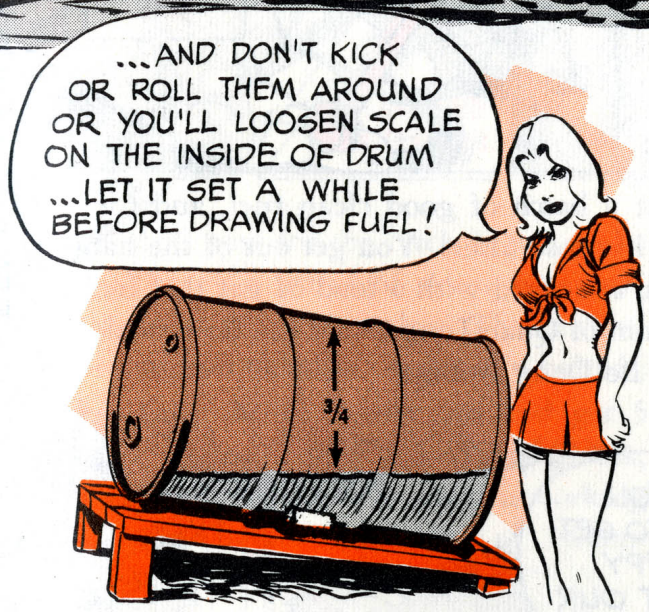
Rinsing tanks with denatured alcohol to kill fungus every month isn't a bad idea. You have to take the tanks out to do it completely, so be sure your lines are tight afterward.

MORE HELP

You've also got a pair of built-in fuel system watchdogs. There are 2 strainers between the tanks and your carburetor throat. They won't remove water, but they do stop lint, rocks, and small fish.

MORE





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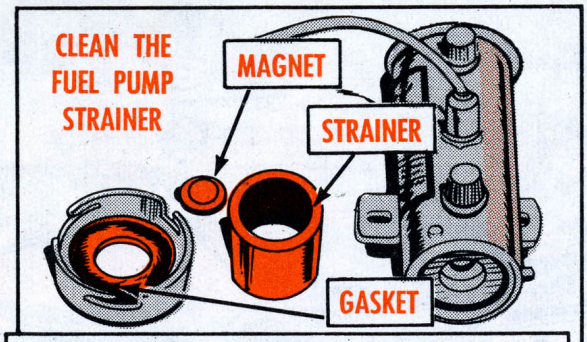


When you turn the nut, out will come a round strainer, a round black magnet, and a gasket.

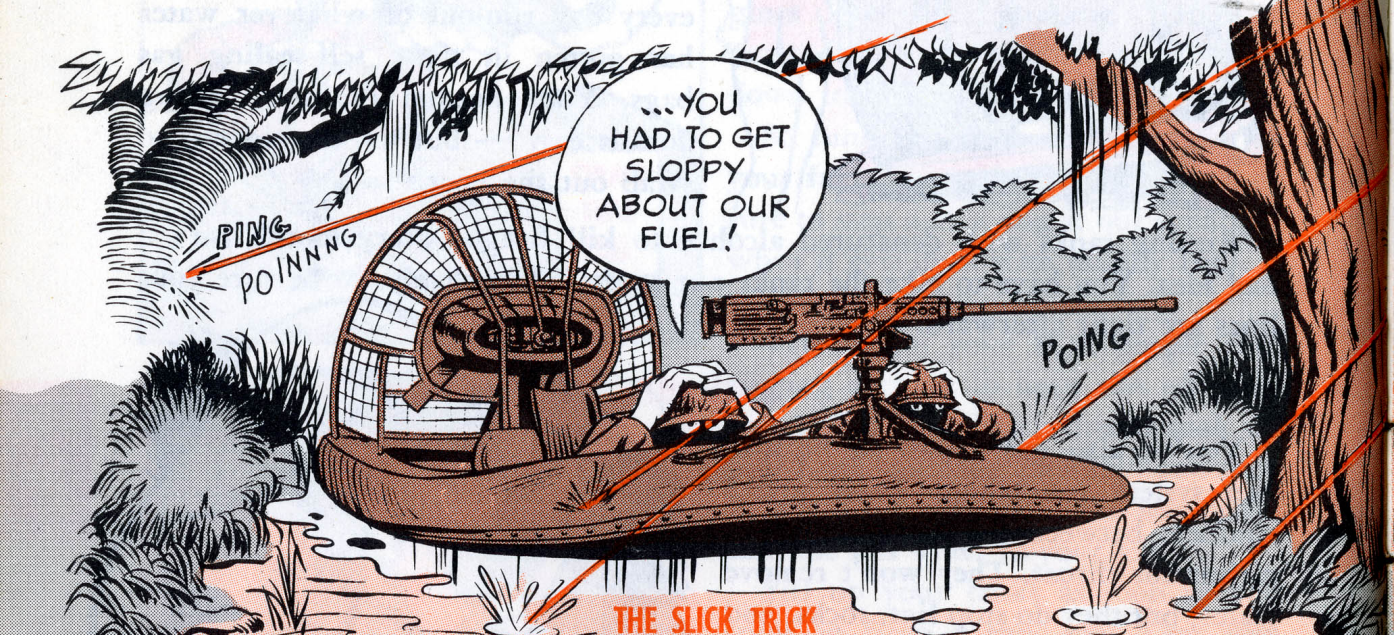
One is on the bottom of your electric fuel pump. Take a ⅝-in box-end wrench and turn the bottom nut ¼ left.

Clean the works with solvent, naphtha, or alcohol. Look close to see if the magnet has picked up any metal filings; if so, report, but fast. Then put the parts back like you found them. Use your wrench to make sure, because it's a tight fit.

Next, have a look at the center rear of your carburetor. Under that hex nut opposite the fuel supply line you'll find another screen.

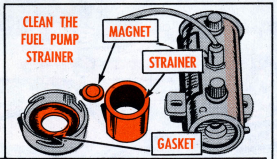
About four turns backs this little pretty out. After it's washed up, put it back snug.

What's likely to trip you is, you get a batch of good clean fuel, and for 3 weeks you don't find a hair of crud in those filters. You get out of the habit of cleaning them, then — Wham! You're socked with a load of gas that looks like it'd been dredged from the bottom of Quan Lang Canal . . . So how does it feel to set with a dead engine in that Bo Dong swamp?



THE SLICK TRICK

You've got to be formal and check on lube. But you're lucky in having an engine that's not prissy over brands. Any good 50 weight nondetergent aircraft oil is fine; in Beautiful Southeast Asia, changing it out every 30 hours or so is smart.



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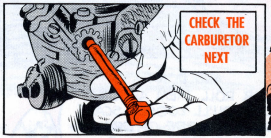

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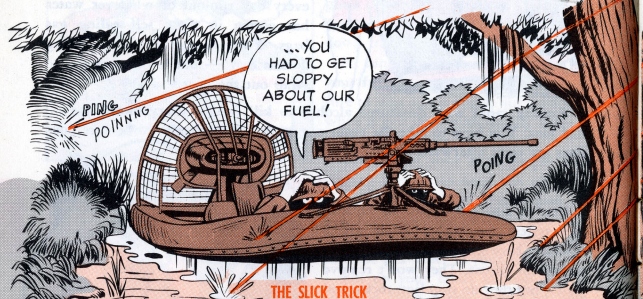

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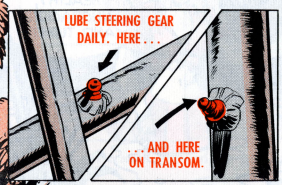
The dipstick's right on the oil filler cap. Add oil when it gets a quart down. Refills take 7 quarts. . . . Believe the sign on the cap 'steada the red TM — that 8 in the book is for airplanes. Anyhoo, check oil level before and after every run.

But that's just half the story.



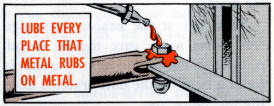
That steering gear gets lubed daily, every day.

Take the grease gun and give a shot to the **fitting under** the **left** side of your **seat** where your steering stick pivots. Then squirt once into the **fitting on the transom** at the stern. Have somebody work the stick back and forth while you shoot the goo.

And now for the catch in your lube oil romance —

There's a fistful of sleeve bearings and joints in that steering set-up that you can't let yourself neglect. That means every place that metal rubs on metal, swings on metal, or mates in a bolted joint that moves.

Take the ol' squirt can and get 5 drops on those **sleeve bearings, pivots,** and **link points.** A smooth-working rudder is half the secret of Swamp Admiral footwork.



After you've lubed the fantail family, wipe up every drop you've spilled. Oil sloshing around in your boat with water on the bottom could literally break your neck, or cost you the help of that machine gunner and his friendly pot-shotter up front.

MORE

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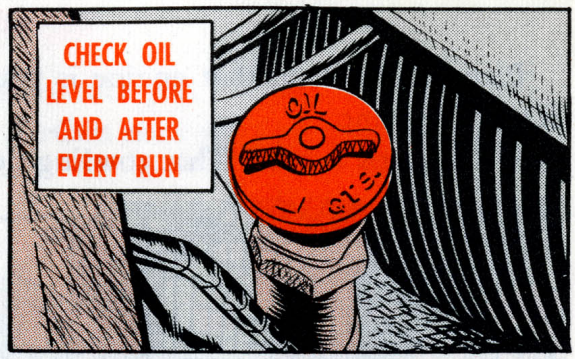
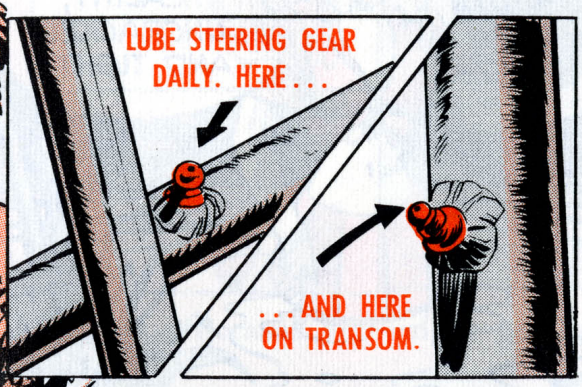
But that's just half the story.



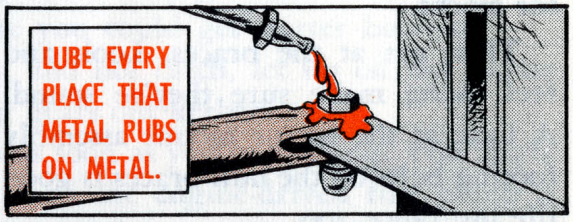


That steering gear gets lubed daily, every day.

Take the grease gun and give a shot to the **fitting under** the **left** side of your **seat** where your steering stick pivots. Then squirt once into the **fitting on the transom** at the stern. Have somebody work the stick back and forth while you shoot the goo.

And now for the catch in your lube oil romance —

There's a fistful of sleeve bearings and joints in that steering set-up that you can't let yourself neglect. That means every place that metal rubs on metal, swings on metal, or mates in a bolted joint that moves.



Take the ol' squirt can and get 5 drops on those **sleeve bearings, pivots,** and **link points.** A smooth-working rudder is half the secret of Swamp Admiral footwork.

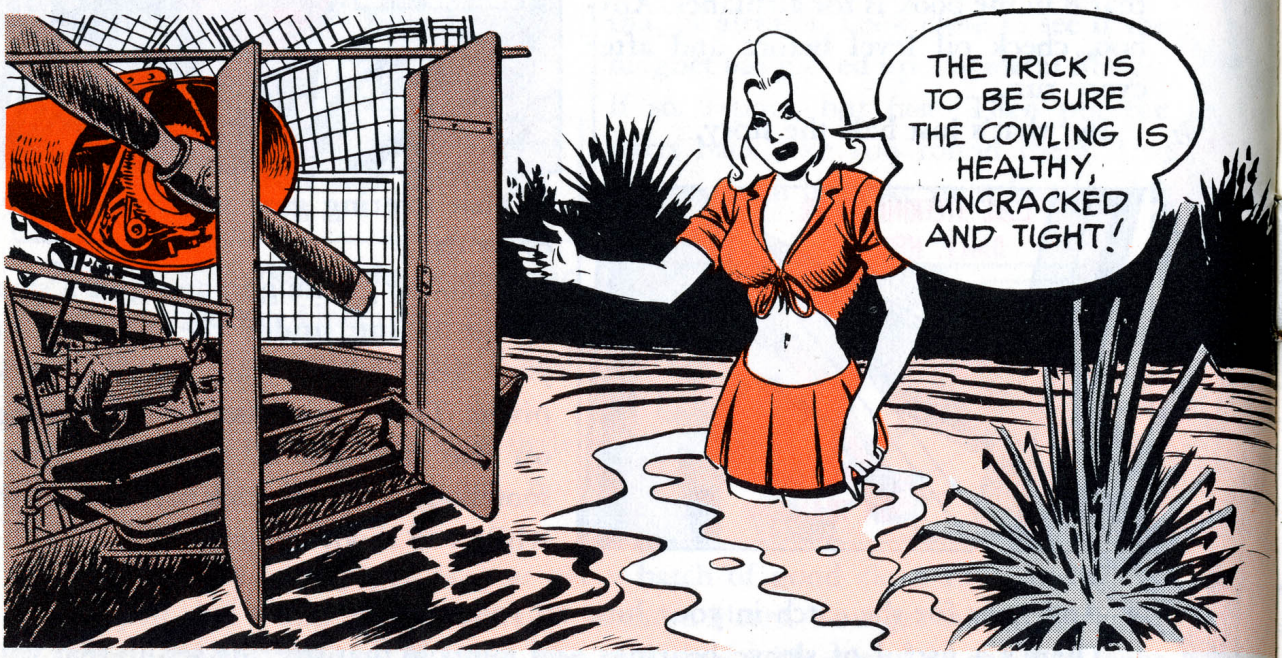
After you've lubed the fantail family, wipe up every drop you've spilled. Oil sloshing around in your boat with water on the bottom could literally break your neck, or cost you the help of that machine gunner and his friendly pot-shotter up front.

P.S. MORE

NO FRYING PAN

Plenty of cool on that engine is your next big help for quick power when it's got to come.

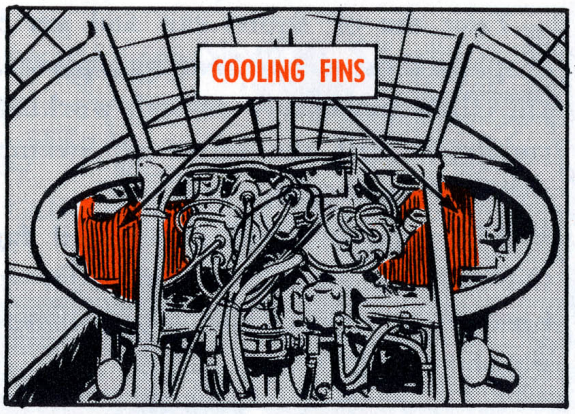
What keeps it cool? That cowling design and cleanliness . . . zat simple.

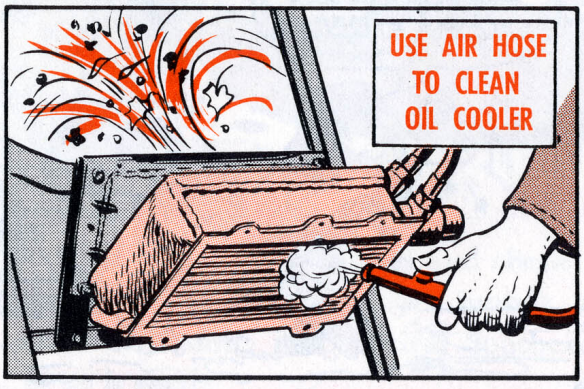


So make it a daily check. Look that cowling over and feel it over. Eyeball each and every bolt and nut along the joints, and test with fingers. Have a sharp eye for cracks.

Then get at the braces. Look and feel there; make sure they're sound. A look at the motor mount assembly footing bolts on the hull braces is good life insurance, too.

Now bend an eye at the cylinder cooling fins. That's your first be-sure-it's-clean bit. Oil, dirt, wiping rag shreds, and such don't belong there.

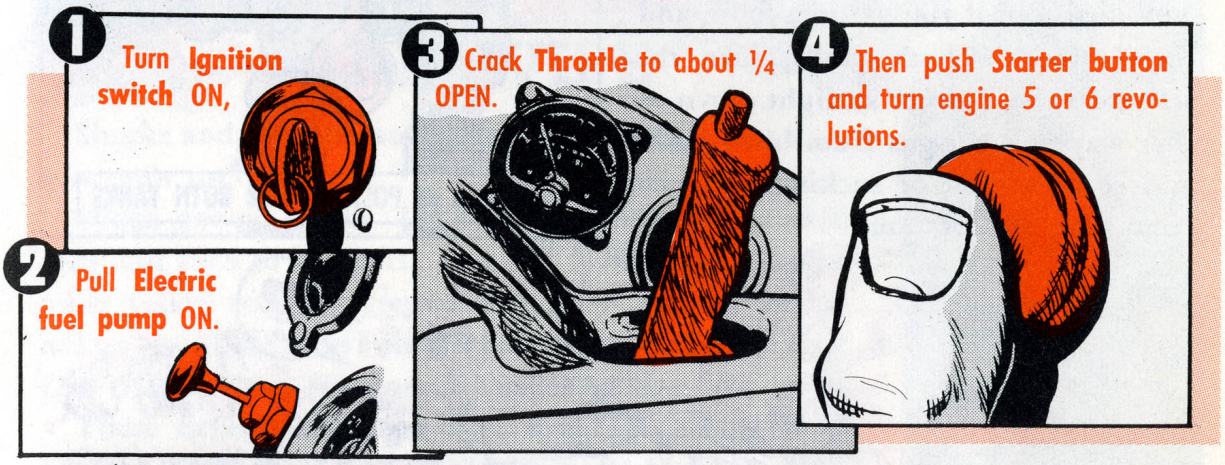




And before you choo-choo out of the station, make certain your oil cooler radiator is clean. Grass, leaves, seeds off marsh weeds and the like collect there — but don't let 'em stay. If you can get to an air hose, blowing it out from the back is a help. Then have a gander to make sure the inlet and outlet hoses are healthy.

THE REAL THING

So you're ready to go? Well, stand by for late word from the head shed — there's been a change in starting these AirCats since the first models came out. Here's how — and do it in this order —



Why so? Because you might get hydrostatic lock from excess oil in the cylinders.

Now, on about the 6th or 7th revolution, while the motor is turning and you're still holding the starter button down, turn the **Magneto switch** to BOTH position. Your engine should start within 2 or 3 more turns.

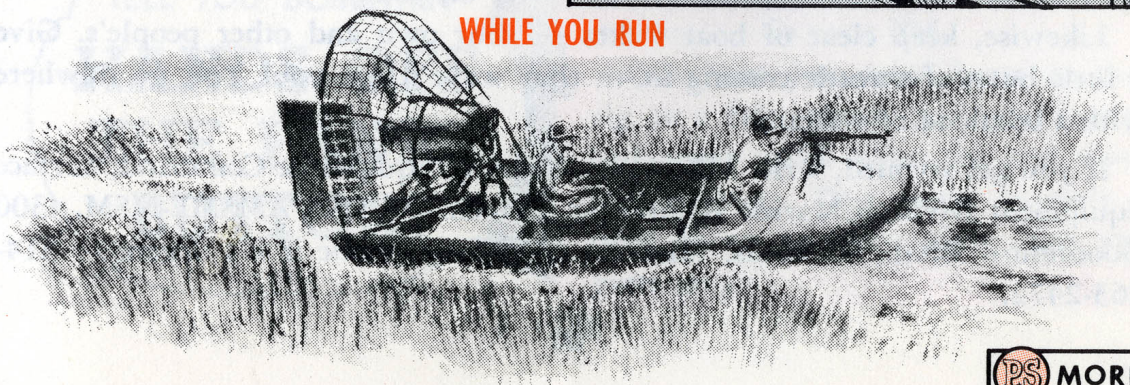
If you don't start within 15 seconds, take that finger off the starter switch and let it rest 3 to 5 minutes — otherwise you could get starter burn-up.

And if the engine should cough, kick, and not catch, let up off the starter until all is still — you could tear starting gears out kerbam.

Then turn off that electric fuel pump as soon as you're running. You might need it for a quick start some busy day, and the engine-driven fuel pump is meant for steady use.

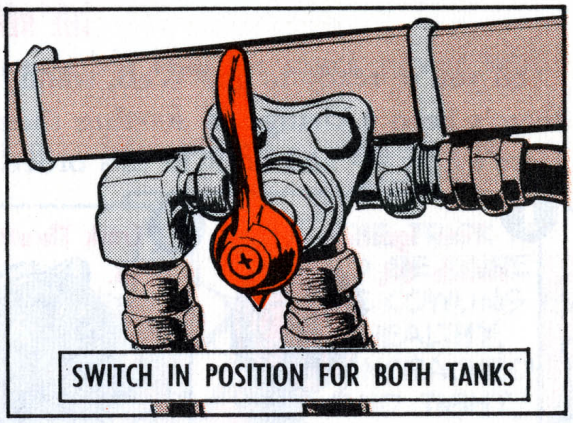
Then eyeball your gages. You should get 25 PSI oil pressure inside a half minute, and 55 to 65 PSI in a good fast cruise. Idle at 550 RPM or so until your cylinder head temperature reads 100°C or so — then you're off.

WHILE YOU RUN

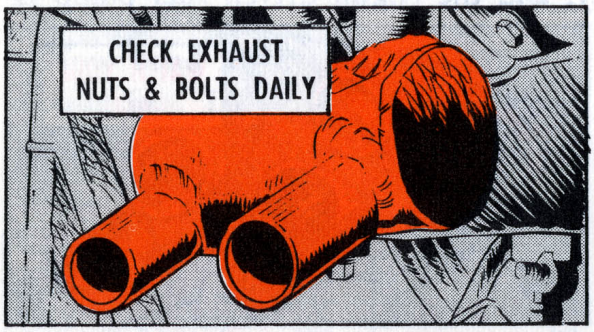


PS MORE

Use the fuel-tank selector valve to take about equal amounts out of the tanks — first one, then the other, unless you've got a weight to make your boat one-sided. But if you get in a fight, and there's fuel in both tanks, turn the selector valve pointer straight down — that way you get gas from **both** tanks and run less risk of sucking up guck from a nearly-dry tank.



Leave nothing, but nothing, loose in the boat, and let nobody toss up anything that could fly into that propeller. That's Disaster, big D. Make a unit SOP for keeping spent brass from your front gun outa that prop, too, and see that it's enforced. Box up tools and such and lash 'em down — a fouled steering gear could land you right in Charlie's lap. Same goes for people trying to stand up in the boat while you run or fire across the boat — Nix, N-O!



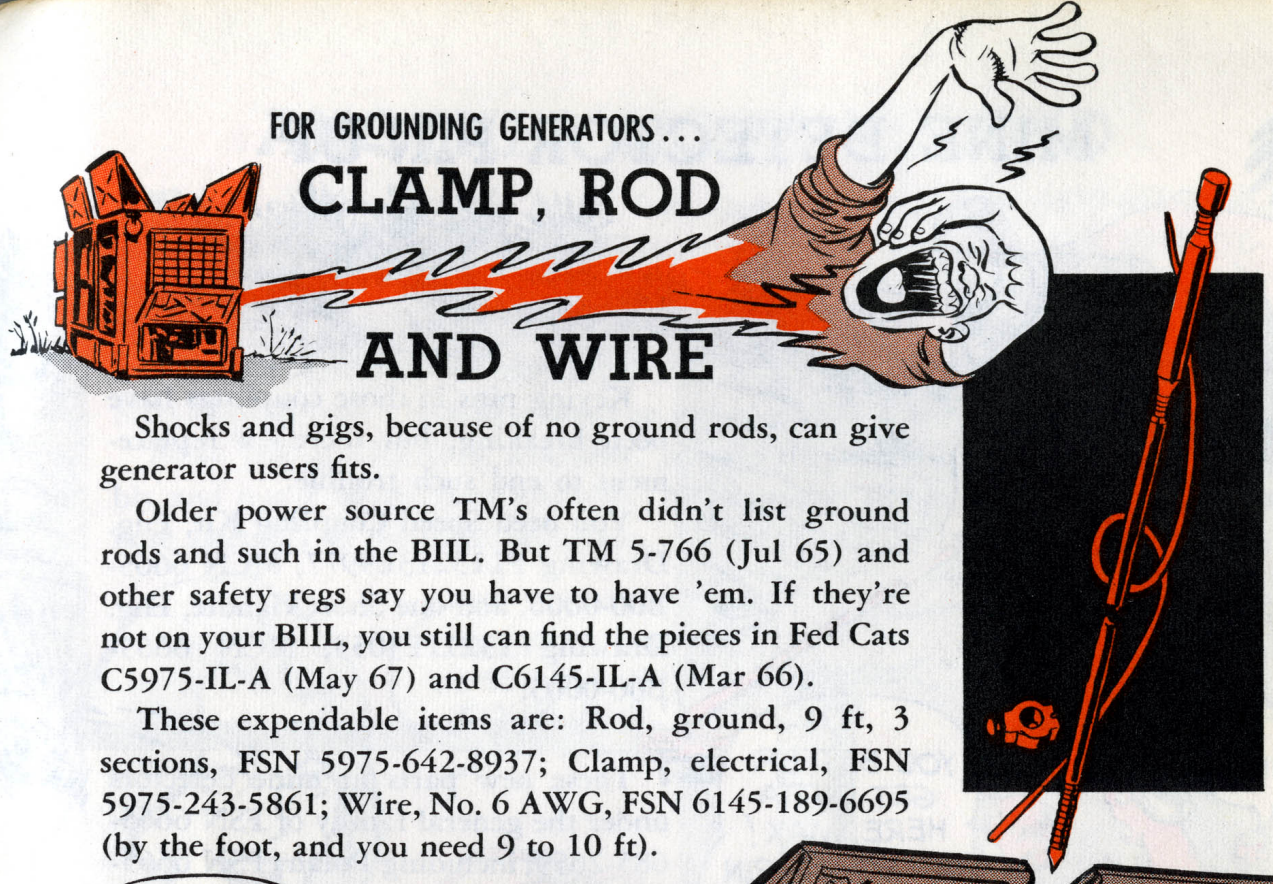
Remember, too, that heat can loosen bolts and nuts, so make a daily check on that exhaust muffler on each side of the engine. It could come off and wham that propeller. And if you do get a prop break, chop that switch like lightning. The engine could vibrate out or come over on you.

Likewise, keep clear of boat wakes — your own and other people's. Give a little burst of throttle coming in, or that wave'll get you. You go nowhere with a boatload of water.

If you get stymied, write U.S. Army Mobility Equipment Command, Surface Equipment Division, Marine Equipment Branch. ATTN: AMSME-MSM, 4300 Goodfellow Blvd., St. Louis, Missouri 63120. Or phone if it's urgent — 314-263-2472.

FOR GROUNDING GENERATORS...

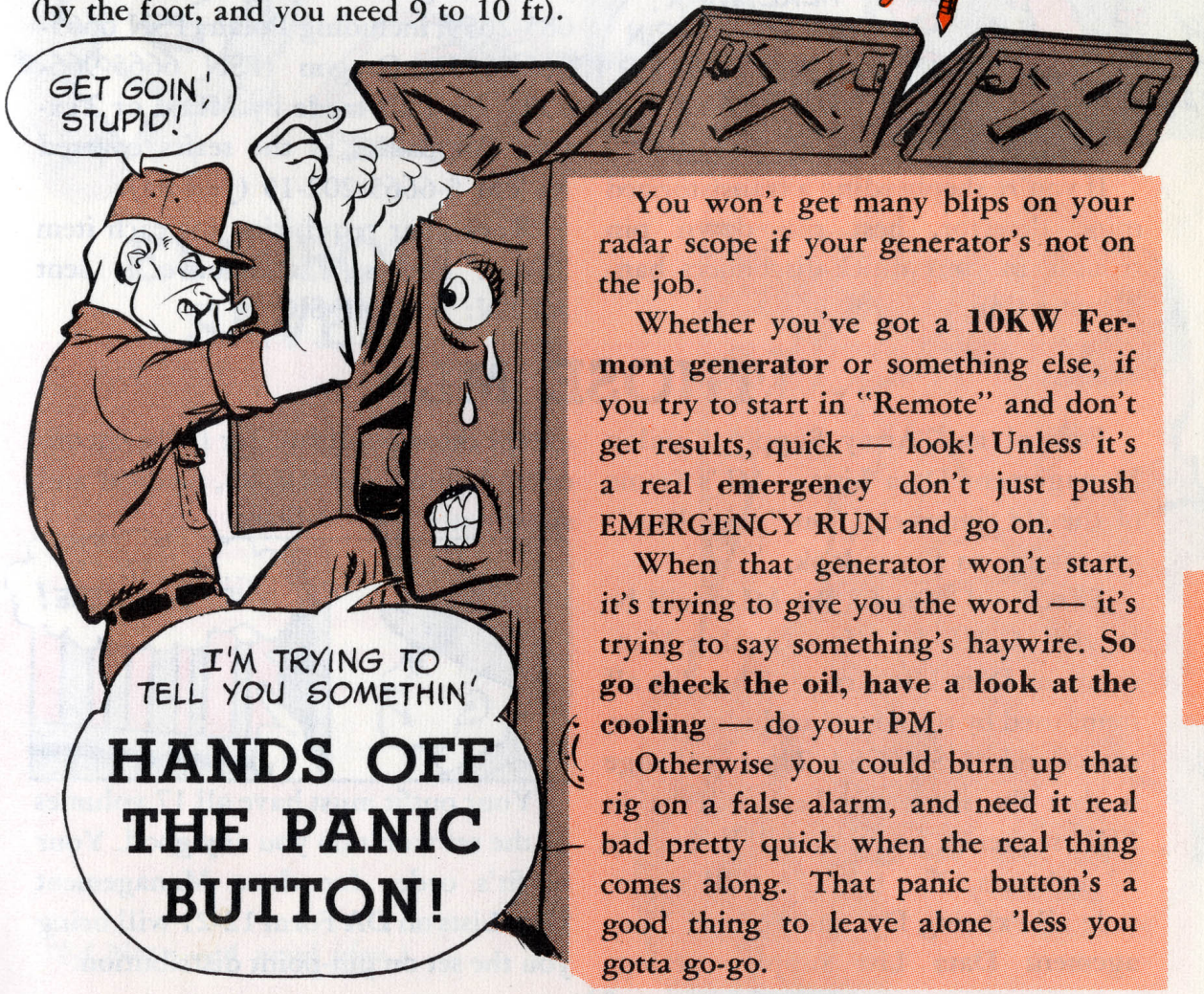
CLAMP, ROD AND WIRE



Shocks and gigs, because of no ground rods, can give generator users fits.

Older power source TM's often didn't list ground rods and such in the BIIL. But TM 5-766 (Jul 65) and other safety regs say you have to have 'em. If they're not on your BIIL, you still can find the pieces in Fed Cats C5975-IL-A (May 67) and C6145-IL-A (Mar 66).

These expendable items are: Rod, ground, 9 ft, 3 sections, FSN 5975-642-8937; Clamp, electrical, FSN 5975-243-5861; Wire, No. 6 AWG, FSN 6145-189-6695 (by the foot, and you need 9 to 10 ft).



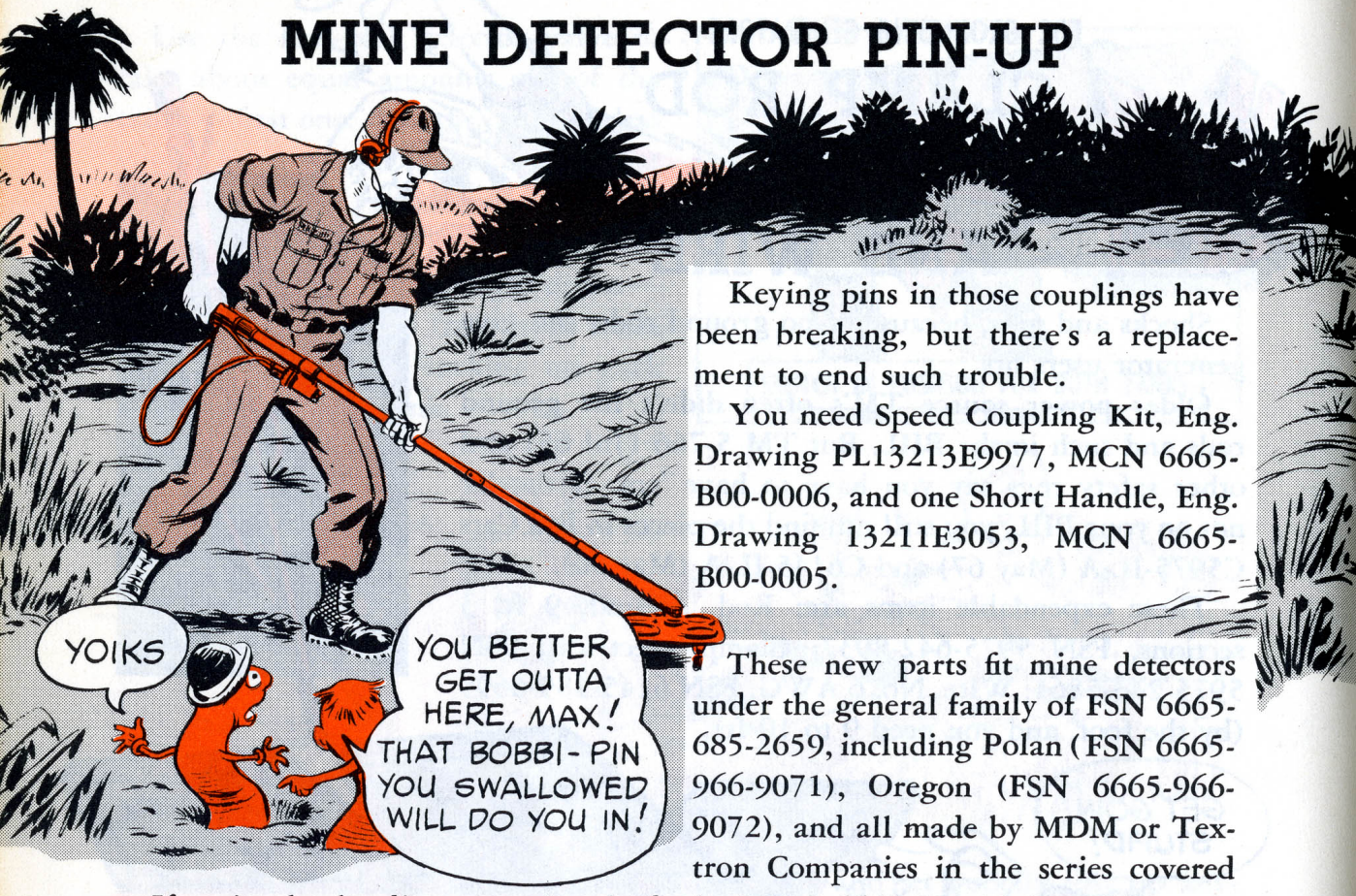
You won't get many blips on your radar scope if your generator's not on the job.

Whether you've got a **10KW Fermont generator** or something else, if you try to start in "Remote" and don't get results, quick — look! Unless it's a real **emergency** don't just push EMERGENCY RUN and go on.

When that generator won't start, it's trying to give you the word — it's trying to say something's haywire. **So go check the oil, have a look at the cooling** — do your PM.

Otherwise you could burn up that rig on a false alarm, and need it real bad pretty quick when the real thing comes along. That panic button's a good thing to leave alone 'less you gotta go-go.

MINE DETECTOR PIN-UP



If you're shepherding a transistorized mine detector, best pin down pin trouble in your quick-disconnect handle coupling.

Keying pins in those couplings have been breaking, but there's a replacement to end such trouble.

You need Speed Coupling Kit, Eng. Drawing PL13213E9977, MCN 6665-B00-0006, and one Short Handle, Eng. Drawing 13211E3053, MCN 6665-B00-0005.

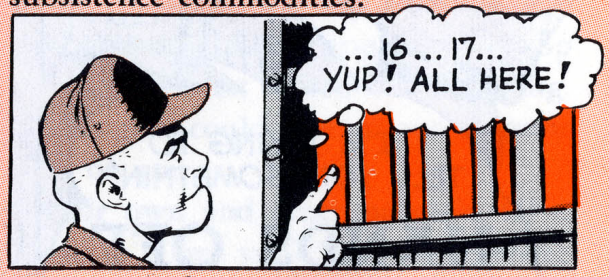
These new parts fit mine detectors under the general family of FSN 6665-685-2659, including Polan (FSN 6665-966-9071), Oregon (FSN 6665-966-9072), and all made by MDM or Textron Companies in the series covered by TM 5-6665-202-15 (Jun 64).

Mark your requisition for each item "Hand Process," and have it sent ATTN: AMSME-SIC.

THOSE ML's

Federal and Army Supply Catalog Management Data Lists — ML's (some of the old timers call 'em "price lists") are taking on a new look.

Effective 1 Mar 68 the ML's will be labeled C-ML-A's (for Catalog-Management Data List-Army). They list all items used by the Army, including those managed by DSA/GSA. The big change is that the stock numbers will be in FIIN sequence, and they will be in only 17 volumes. The C-ML-A will supersede all existing DA and Federal Management Data List supply catalogs except those published for fuels, chemicals, clothing and textiles, medical and subsistence commodities.



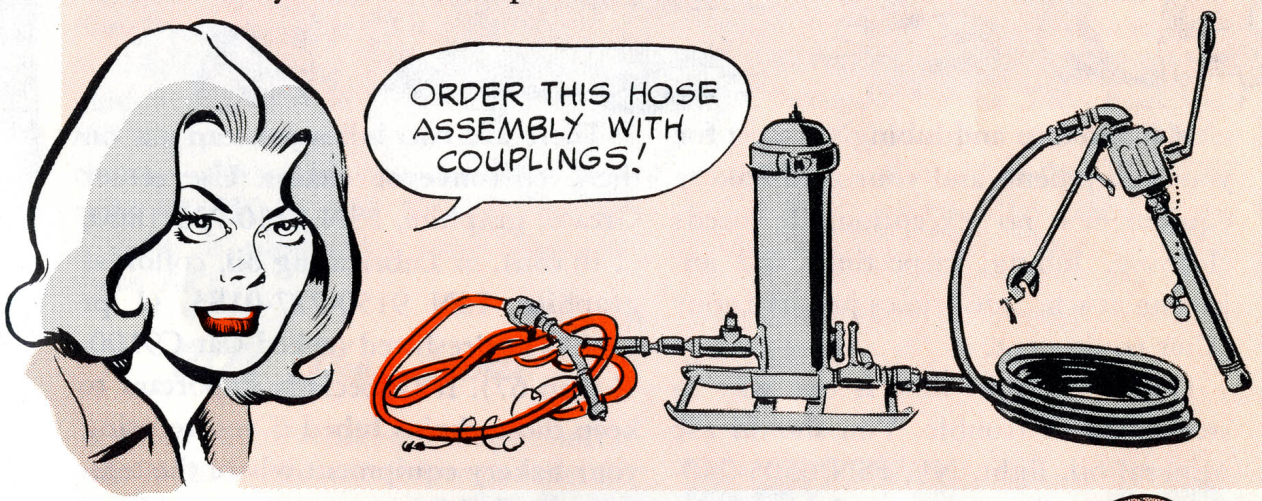
Your outfit must have all 17 volumes or the set won't do you any good. Your outfit's order for these Management Data Lists on DA Form 12-21 will bring you the set on pin-point distribution.

ANOTHER HOSE NEEDED

You've got the 15-GPM liquid fuel filter/separator, FSN 4330-051-0666, and the hand-operated piston type dispensing pump assembly, FSN 4930-276-0087. But you still have one question — how do they go together?

Before you can use them, you'll need another 20-ft length of hose. You order Hose Assembly w/couplings, FSN 4720-914-2205, Part No. 310410-1, Mfrs Code 60145. You find it listed on page 6 of TM 10-4930-201-23P (Apr 63).

After you get the hose assembly, remove the nozzle from the pump assembly and put it on the hose assembly. Now connect the pump assembly and the hose assembly to the filter/separator.



EYEBROW SAVER

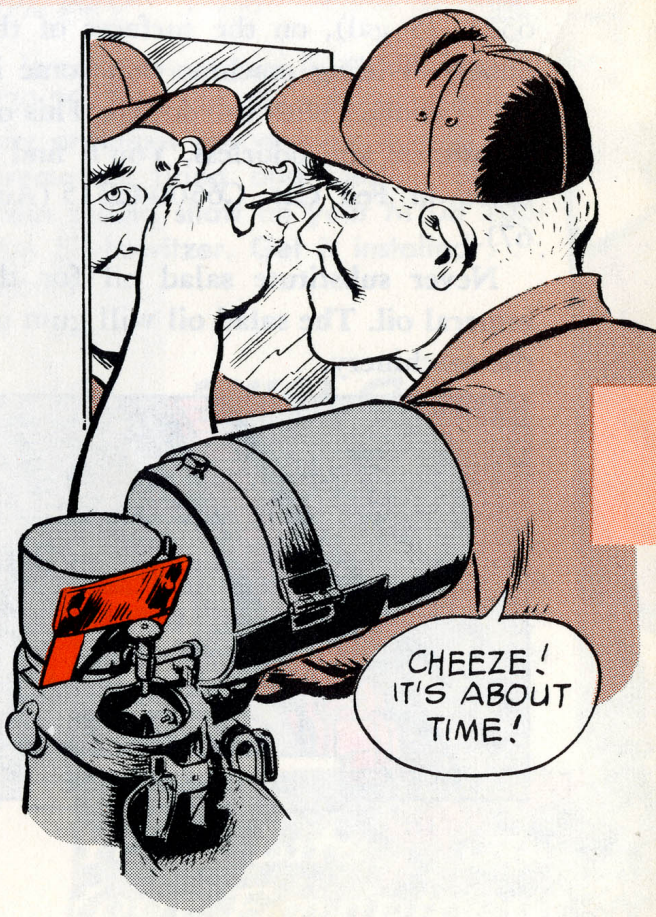
Dear Editor,

Here's how we prevent singed eyebrows while lighting the immersion heater. We use 4 nuts and bolts, a mirror (FSN 7310-379-2530) from the M1937 fire unit, and 2 strips of sheet metal.

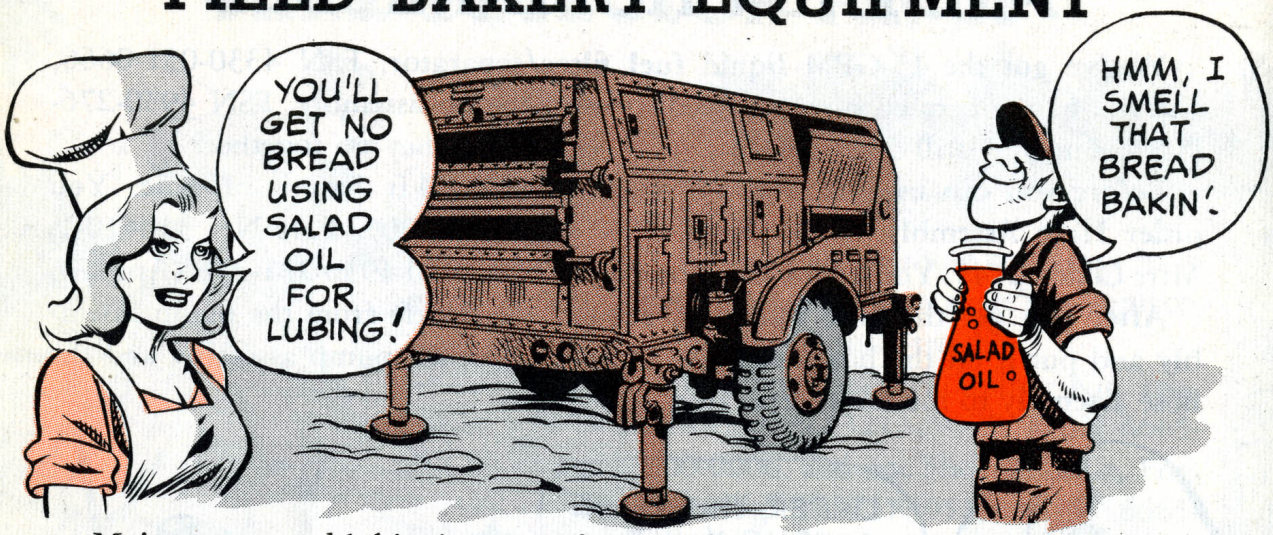
We mounted the mirror beside the air conditioning-heating pipe so that we could look into the burner compartment to see if there was a flame.

Field Mess Operations
Subsistence & Food Service Dept
Quartermaster School, Ft Lee, Va.

(Ed Note — A good idea.)



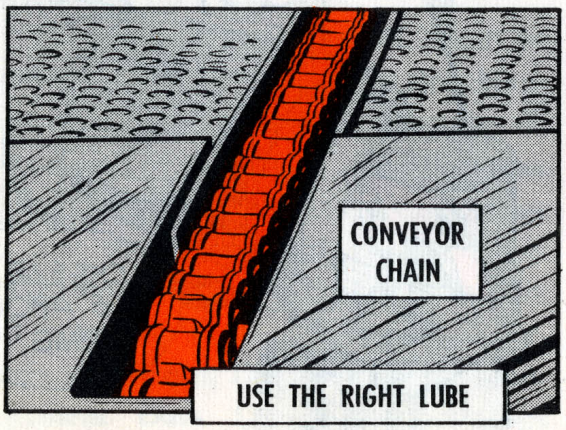
FIELD BAKERY EQUIPMENT



Maintenance and lubing's a must for your equipment, and your field bakery equipment's no exception. It needs cleaning, lubing, inspecting, and adjusting at scheduled times just like your other equipment.

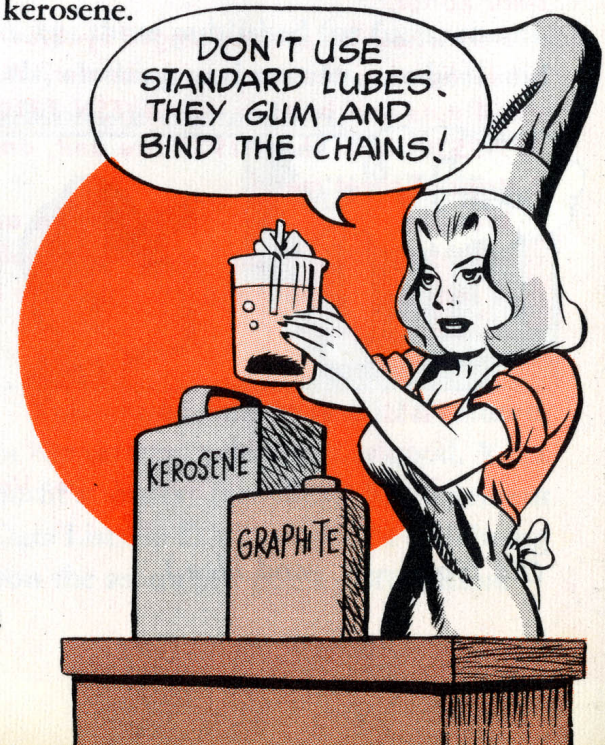
Using the right lube is one way to steer clear of trouble. You should use Mineral oil, light, NF, FSN 6505-240-6328, (5 gal), on the surfaces of the dough dividing machine that come in direct contact with the dough. This oil is tasteless and odorless. You'll find it listed in Fed Cat C6500-CB15 (Aug 67).

Never substitute salad oil for the mineral oil. The salad oil will gum up the machinery.



There are two lubes you can use on the oven conveyor chains. Use either Grease, graphite, FSN 9150-735-1800, (1 lb can), or Lubricating oil, colloidal graphite, FSN 9150-227-0183, (1 pt can). They're listed in Fed Cat C9100-IL (Sep 67). It's especially important to keep those chains lubed if you're using your bakery equipment where the temperature is high.

If you can't get the graphite grease or oil, then you can use a "do it yourself" lube by combining 1 part of powdered graphite with 8 parts of kerosene.



Connie Rodd BRIEFS

MTOE Scoop

DA Cir 310-44 (5 Nov 67), The Army Authorization Documents System (TAADS), covers the latest SOP on handling a Modification Table of Organization Equipment (MTOE) and TDA and MTDA. The circular sets up step-by-step guidance on preparing and submitting MTOE's, provides sample formats, flow charts — the works. It's to be used along with AR 310-31, AR 310-34 and AR 310-49; it supersedes some parts of these AR's.

20's The Limit

When you're loading a magazine for your M16A1 rifle, remember, it takes 20 cartridges — no more, no less. So, forget what you read in PS 181 about using only 18 or 19 rounds. And also scratch that bit on page 48 of the same issue about looking for a lubing guide on pages 18-20. A misplaced line of type, that.

Purge & Charge Your Own!

Hot off the press . . . TM 750-116 (Nov 67), Organizational Maintenance Procedures For Purging And Charging Of Fire Control Instruments. Not only does it authorize using units to doctor their instruments right where the problem exists, but also tells you how and authorizes you the stuff to do it with.

Multifuel Filter

Make sure you use the new FSN when ordering filter elements for those twin secondary and final fuel filters mounted on the left side of your truck's multifuel engine. For each filter you need Parts Kit, Fuel Filter Element, FSN 2910-758-9556. This goes for the 5-ton truck with the LDS 465-1A engine and also for the 2½-ton truck with either the LDS 427-2 or LD 465-1 engine. The new FSN replaces FSN 2815-758-9556 in Ch 2 (Apr 67) to TM 9-2320-211-20P. And it replaces FSN 2910-710-9267 in TM 9-2320-209-20P (Jan 65).

MWO This Hex Down

In case you missed it, MWO 9-1015-230-30/2 (6 Oct 67) will take care of any problems you've been having with premature firing and binding of the main sliding shaft on your M108 105-MM SP howitzer. Get it installed . . . pronto.

New M151 Film

It's new — TF 9-3852 on "Maintenance Procedure, M151 Series ¼-Ton Truck." The M151 maintenance policy is "different," and that's why this new film is called "The System Works, Mac, But You Got To Work The System." It's at your nearest Audio-Visual Communications Center.

Would You Stake Your Life right now on the Condition of Your Equipment?

LEMME BREATHE, BABY!
KEEP SANDBAGS WELL AWAY FROM UNIT — LEAVE VENTS FOR AIR CIRCULATION
KEEP CANVAS HIGH ENOUGH SO AIR GETS IN...
YOUR GENERATOR NEEDS AIR TOO!